LIBRARY
NOV 6 1946
UNIVERSITY OF TORONTO

R
11
.S68
V.8
no.5
Biological & Medical Serials

VOLUME VIII MAY, 1915 NUMBER 5

Southern Medical Journal

Journal of The Southern Medical Association

THE TRUTH AND THE TRUTH ONLY ON EVERY PAGE FROM COVER TO COVER

TABLE OF CONTENTS

SPECIAL ARTICLE.

The Wealth of Health. Harvey W. Wiley, Washington, D. C. 345

MEDICINE.

Neuroses in Their Relation to Chronic Infections, J. Allison Hodges, Richmond, Va. 354

Discussed by F. H Clark, Lexington, Ky.; Wm. S. Gordon, Richmond, Va.; Tom A. Williams, Washington, D. C.

Duodenal Alimentation. Camp Stanley, Washington, D. C. 358

Discussed by J. C. Johnson, Atlanta, Ga.; Philip S. Roy, Washington, D. C.

AUTHORS' ABSTRACTS: Pyorrhea Dentalis and Alveolaris: Specific Cause and Treatment, C. C. Bass and F. M. Johns, New Orleans, La.—**The Significance of Casts in the Urine,** H. L. McNeil, Galveston, Tex.—**Intestinal Stasis,** J. W. Torbett, Marlin, Texas.—**Diseases of the Suprarenals,** O. P. Nuckols, Pineville, Ky.—**Studies on Diphtheroid Organisms Isolated from Lymphadenomatous Structures of the Body,** Jno. A. Lanford, New Orleans, La.—**Directions,** U. S. Bird, Tampa, Fla.—**Radiographic Gastro-Intestinal Diagnosis—A Note of Warning,** J. Russell Verbrycke, Jr., Washington D. C.—**Physical Exercises in the Treatment of Nervous Diseases,** Theodore Toepel, Atlanta, Ga.—**Medical Side of Exophthalmic Goitre,** R. W. Baird, Dallas, Tex.—**Whey in Infant-Feeding,** A. W. Bosworth, Geneva, N. Y., H. I. Bowditch and B. H. Ragle, Boston, Mass. 363

TROPICAL DISEASES AND PUBLIC HEALTH.

The Symptomatology, Etiology, Pathology and Treatment of Pellagra. J. Clarence Johnson, Atlanta, Ga. . 366

The Present Status of Typhoid Prevention in Southern Municpalities. Allen W. Freeman, Richmond, Va. . . 376

Municipal Control of Typhoid Fever. W. Brownley Foster, Roanoke, Va. 378

AUTHORS' ABSTRACTS: Examination of Drinking Water on Railroad Trains, Richard H. Creel, Washington, D. C.—**Live a Little Longer—The Rochester Plan,** Miss M. E. Bingeman, Rochester, N. Y.—**Sterilization,** S. M. Miller, Knoxvile, Tenn.—**The Opportunities and Needs of the American Student and Investigator in Tropical Medicine,** Richard P. Strong, Boston, Mass.—**The Tuberculosis Problem in Rural Communities—Its Modern Aspect and the Duty of Health Officers,** S. Adolphus Knopf, New York, N. Y.—**Prevention of Suicide,** Tom A. Williams, Washington, D. C.—**The Coming Movement for Extending Human Life,** Irving Fisher, New Haven, Conn.—**The Pathological Affinities of Beriberi and Scurvy,** S. T. Darling, Ancon, Canal Zone 380

SURGERY, GYNECOLOGY, OBSTETRICS AND GENITO-URINARY DISEASES.

End Results of Round Ligament Fixation. W. Kohlman, New Orleans, La. 383

Discussed by F. G. DuBose, Selma, Ala.; Edmund J. Horgan, Fairfax, Va.; G. C. Rodgers, Elkins, W. Va.; H. Stuart McLean, Richmond, Va.; Chas. H. Harris, Ft. Worth, Tex.

Appendicitis—Has the Last Word Been Said About It? W. Lowndes Peple, Richmond, Va. 387

Discussed by Floyd W. McRae, Atlanta, Ga.; Stuart McGuire, Richmond, Va.; R. B. Williams, Norfolk, Va.; Southgate Leigh, Norfolk, Va.

A New Method in Disposing of the Stump of the Appendix After Its Removal. J. Hugh Carter, Memphis, Tenn. 393

Discussed by Joseph Graham, Durham, N. C.

(Concluded on first ad. page)

"Chicago Laboratory, 25 E. Washington St., Chicago, Ill., see page XVI."

City View Sanitarium

(ESTABLISHED 1907)

JOHN W. STEVENS, M.D., Physician-in-charge
Telephone Main 2928
Rural Route No. 1 Nashville, Tennessee

For the Treatment of MENTAL and NERVOUS DISEASES and the ADDICTIONS. New fifty Room Department completed January, 1915. Now have two new buildings. One for each sex. A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accommodations to meet the desires of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65. References: Medical Profession of Nashville.

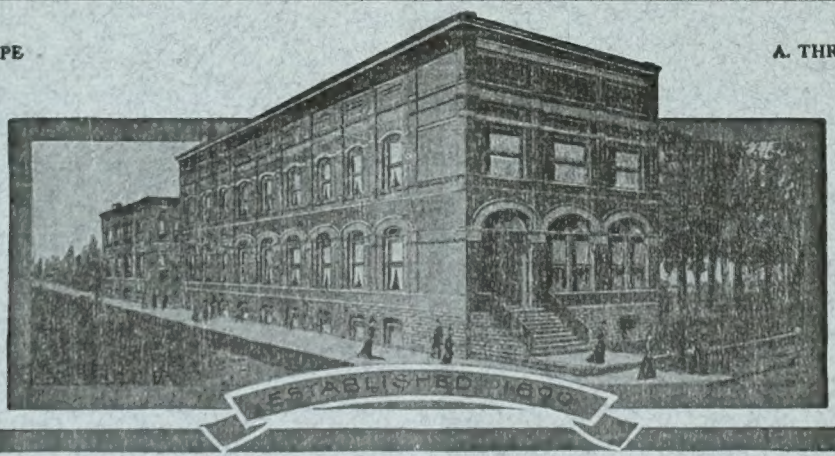
THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT.

A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery. Forty-five minutes from Los Angeles. F. M. Pottenger, A.M., M.D., LL.D., Medical Director. J. E. Pottenger, A.B., M.D., Assistant Medical Director and Chief of Laboratory. George H. Evans, M.D., San Francisco, Medical Consultant. For particulars address: POTTENGER SANATORIUM, Monrovia, Cal. Los Angeles office: 1100-1101 Title Ins. Bldg., Fifth and Spring Streets.

CURRAN POPE A. THRUSTON POPE



A MODERN up-to-date private infirmary equipped with steam heat, electric light, electric fans, modern plumbing and new furnishings. Solicits all chronic cases, functional and organic nervous diseases, diseases of the stomach and intestines, rheumatism, gout and uric acid troubles, drug habits and non-surgical diseases of men and women. No insanity or infectious cases treated. Bed-ridden cases not received without previous arrangement.

Hydrotherapy, Mechanical Massage, Static, Galvanic, Faradic, High Frequency, Arc Light and X-Ray Treatments given by competent Physicians and Nurses under the immediate supervision of the Medical Superintendent. Special laboratory facilities for diagnosis by urine, blood, sputum, gastric juice and X-Ray. Recreation hall with pool and billiards for free use of patients.

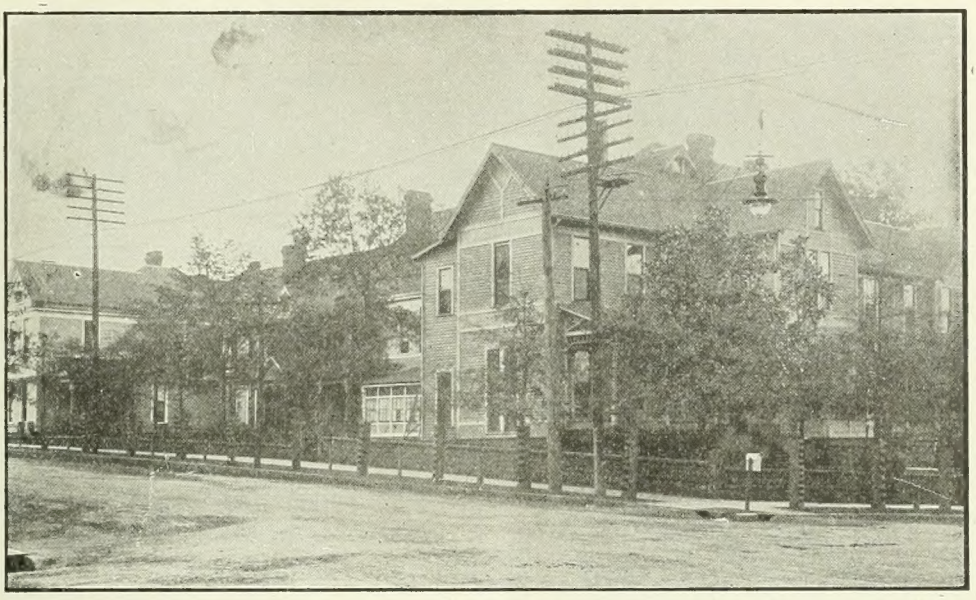
Rates $25 per week; including treatment, board, medical attention and general nursing. Send for large illustrated catalog. The Sanatorium is supplied daily, from the Pope Farm, with vegetables, poultry and eggs; also milk, cream, butter and buttermilk from its herd of registered Jerseys.

THE POPE SANATORIUM

INCORPORATED
Established 1890

Long Distance Phones
CUMB. M. 2122 HOME 2122

115 West Chestnut Street
LOUISVILLE, KENTUCKY



DAVIS INFIRMARY For Diseases of Women and Surgical Cases and Hospital Training School for Nurses

The buildings are well constructed for surgical work. Competent Staff of Consultants and Assistants.

J. D. S. DAVIS, M.D., Birmingham, Alabama.

TABLE OF CONTENTS—*Concluded*

Observations on Pituitary Extract in Obstetrics. J. M. H. Rowland, Baltimore, Md. 394

Discussed by F. G. DuBose, Selma, Ala.; F. Webb Griffith, Asheville, N. C.; I. W. Faison, Charlotte, N. C.; H. H. Purinton, Durham, N. C.; J. L. Miller, Thomas, W. Va.; Edmund J. Horgan, Fairfax, Va.; W. Kohlmann, New Orleans, La.; A. K. Kessler, Huntington, W. Va.; W. W. Crawford, Hattiesburg, Miss.; B. H. Gray, Richmond, Va.; John F. Winn, Richmond, Va.

AUTHORS' ABSTRACTS: Final Plea for Inactive Medical Reserve Corps, H. C. Coe, Washington, D. C.—**Data Obtained Through Correspondence with Nine Hundred General Practitioners and Surgeons Relative to the Diagnosis, Treatment and Classification of Acute Appendicitis,** Frank D. Smythe, Memphis, Tenn.—**A Rare Type of Bladder Ulcer in Women: Report of Cases,** Guy L. Hunner, Baltimore, Md.—**Method of Distending Veins of Fore Arm Preparatory to Intravenous Infusion or Salvarsan Administration,** A. F. Hodge, Ft. Smith, Ark.—**Pessimism Concerning the Treatment of Cancer,** John T. Moore, Houston, Tex.—**Pathological Vaginal Discharges,** T. S. Field, Jacksonville, Fla.—**Syphilis of the Innocent,** J. L. Kirby-Smith, Jacksonville, Fla.—**Keloid Formation in Negro,** A. G. Brenizer, Charlotte, N. C.—**Exposure of Appendix by Cullen's Method. A Simple Way of Removing an Adherent Retrocecal Appendix Through the Ordinary Gridiron Incision,** William Niell, Jr., Baltimore, Md. 410

RAILWAY SURGERY.

First Aid to the Injured. Lucius E. Burch, Nashville, Tenn. 412

The Instruction of Railway Employes in Practical Application of First Aid to the Injured. J. M. Salmon, Ashland, Ky. 413

Papers of Drs. Burch and Salmon discussed by Thomas H. Hancock, Atlanta, Ga.; Clarence H. Vaught, Richmond, Ky.; J. W. Hanley, Nashville, Tenn.; C. S. Hoffman, Keyser, W. Va.; W. F. Smith, Little Rock, Ark.; Hermann B. Gessner, New Orleans, La.

EYE, EAR, NOSE AND THROAT.

Sclerocorneal Trephining in Glaucoma. W. H. Wilmer, Washington, D. C. 419

Discussed by F. P. Calhoun, Atlanta, Ga.; J. A. Stucky, Lexington, Ky.; R. W. Bledsoe, Covington, Ky.; Hilliard Wood, Nashville, Tenn.

Some Results of Nose and Throat Operations in the Chronic Poisoning of the Heart, Lungs, Kidneys, Joints, etc. Henry B. Decherd, Dallas, Tex. 424

AUTHORS' ABSTRACTS: Ophthalmia Neonatorum—Prevention and Cure, G. A. Neuffer, Abbeville, S. C.—**Adenoid Tissue, Its Relation to the Middle Ear; Consequences,** R. H. Minchew, Waycross, Ga.—**Intranasal Operation, with Guide for Cure of Dacryocystitis,** F. M. Hanger, Staunton, Va.—**Present Knowledge of Focal Localization Along Visual Paths,** C.

EDITORIALS 428

EDITORIALS 430

BOOK REVIEWS 437

SOUTHERN MEDICAL NEWS 440

THE MILWAUKEE SANITARIUM

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. ¶New Psychopathic Hospital: continuous baths, fireproof building, separate grounds. ¶New West House: rooms en suite with private baths. ¶New Gymnasium and Recreation Building; physical culture, new "Zander" machines, shower baths. ¶Modern Bath House: hydrotherapy, electrotherapy, mechanotherapy. ¶Thirty acres beautiful hill, forest and lawn. Five houses. Individualized treatment.

ENTRANCE

WEST HOUSE

OFFICE AND BATH HOUSE

PSYCHOPATHIC HOSPITAL

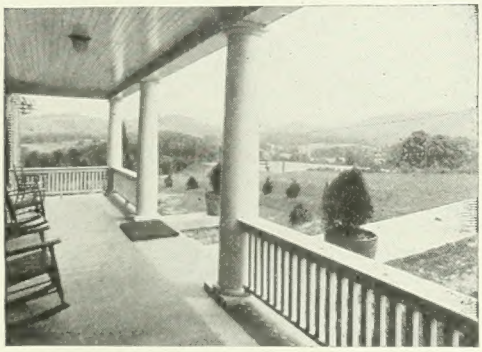
RICHARD DEWEY, A.M. M.D. EUGENE CHANEY, M.D. HERBERT W. POWERS, M.D.

CHICAGO OFFICE; Marshall Field Annex Building, 25 East Washington St. Wednesdays 1 to 3, except July and August.

WAUWATOSA, WISCONSIN

for Mental and Nervous Diseases

ESTABLISHED IN 1884



HIGHLAND HOSPITAL
ASHEVILLE, N. C.

(SUCCEEDING DOCTOR CARROLL'S SANITARIUM)

A modern, thoroughly equipped institution for the care of selected nervous, mental and habit cases, employing all rational methods of treatment, emphasizing climate, diet, water, rest, and giving particular attention to out-of-door occupation treatment or work cure. No tubercular patients accepted under any conditions.

For booklet address

Robt. S. Carroll, M. D., Medical Director Highland Hospital, Asheville, N. C.

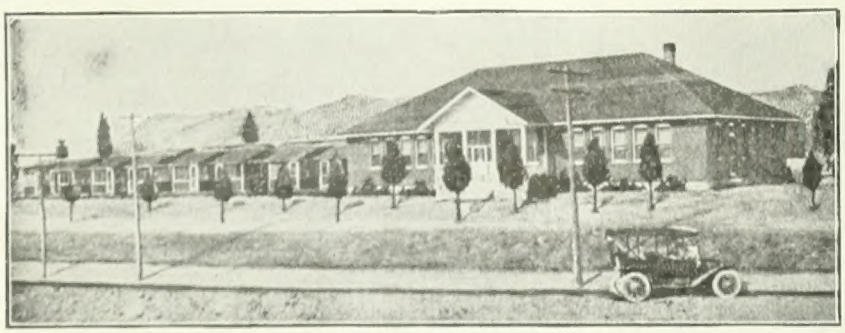
DR. BRAWNER'S SANITARIUM, Atlanta, Ga.

FOR NERVOUS AND MENTAL DISEASES, GENERAL INVALIDISM AND DRUG ADDICTIONS.

Woman's Building. A Cottage. Main Building. Playing Croquet.

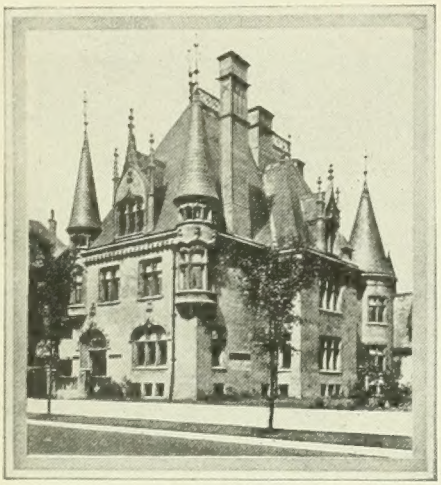
The sanitarium is located on the Marietta trolley line, 10 miles from center of city, near a beautiful suburb, Smyrna. Grounds consist of 80 acres. Buildings are steam heated, electrically lighted, and many rooms have private baths. Patients have many recreations such as tennis, croquet, baseball and automobiling. Reference: The Medical Profession of Atlanta. Address DR. JAS. N. BRAWNER, 701-2 Grant Bldg., Atlanta, Ga.

The Cipes Sanatorium for Pulmonary and Laryngeal Tuberculosis, Albuquerque, New Mexico



A thoroughly equipped institution for the scientific treatment of tuberculosis. Bungalows with individual screened porches, hot and cold running water bath and toilet in each cottage, electric lights, call bells, etc. Ideal location. Rates $20.00 TO $25.00 per week. No extras. Write for booklet.

Joseph S. Cipes, M.D.
Medical Director.



The HYGEIA SANITARIUM
Exclusively for the Treatment of
Drug Addiction and Alcoholism
Dr. Wm K. McLaughlin, *Medical Supt.*
2715 Michigan Avenue, Chicago, Ill.

A $50,000 Income

was promised

THE HYGEIA SANITARIUM

(For Alcoholic and Drug Addictions)

by a publisher's representative in Chicago, if we would advertise in the daily papers. He based his estimate on the profits made by concerns (so-called Sanitaria, 'Cures' etc.) which deal directly with the public.

Naturally we advertise only in Medical Journals.

THE HYGEIA SANITARIUM is the *only* institution in the West administering the Towns-Lambert treatment, the case records of which are open at all times to the inspection of physicians sending patients.

See Journal of the A. M. A., June 21, 1913
Pages 1933-1936

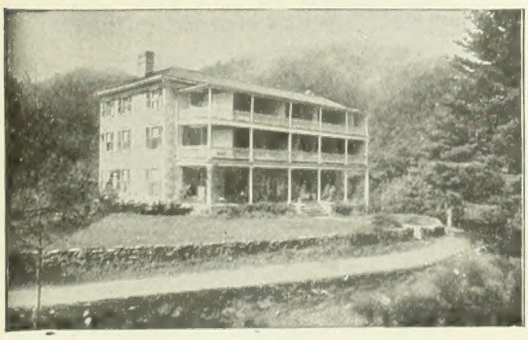
Chestnut Lodge

Rockville, Maryland

Near Washington, D. C. Baltimore & Ohio Railroad and Electric Line from Washington

This Sanitarium under experienced management offers superior advantages for the treatment of patients suffering from Nervous and mild Mental Diseases, and for elderly persons needing skilled care and nursing: combining the equipment of a modern Phychopathic Hospital with the appointments of a refined home. The Hydrotherapy Department is complete in every detail including the Nauheim Baths for Arteriosclerosis, Heart and Kidney Diseases.

DR. E. L. BULLARD, Physician - in - Charge



"In the Pines."

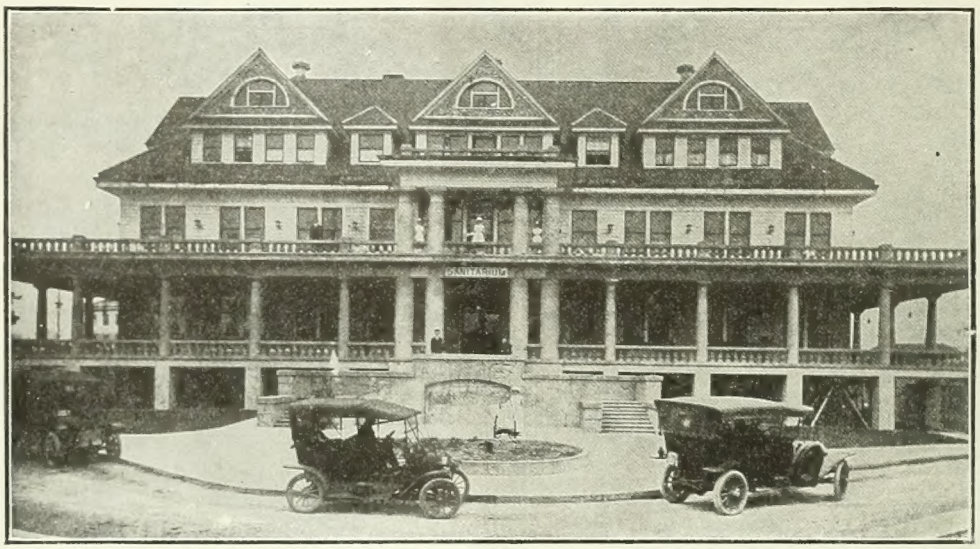
Dr. Morse's Sanatorium for Tuberculosis

Hendersonville, North Carolina

Twenty miles South of Asheville, on the main line of the Southern Railway between Cincinnati and Charleston. Probably the finest all-year-round climate in America. Large number of days of sunshine. Altitude 2300 feet above sea level. Stimulating air. Mountain scenery of great beauty. In the very centre of the **"LAND OF THE SKY."** The sanatorium is especially adapted to the treatment of the tuberculous. Private sleeping-out piazzas for every patient. All modern conveniences and good service. Every health-giving condition is supplied. Eighteen acres of natural parkland surround the sanatorium—a scientific institution amid ideal conditions. Physician lives in the sanatorium. Rates $17.50 to $30.00 per week. Booklet on application.

DR. MORSE'S SANATORIUM, Box 395, Hendersonville, N. C.

WASHINGTON SANITARIUM---MEDICAL AND SURGICAL.



Modernly constructed buildings and equipment, spacious halls and wide verandas. Located within 7 miles of the National Capitol Building. Surrounded by shaded lawns, forests and running streams. Mild Southern Climate. Laboratory equipped for analysis and tests. Treatment appliances standard, including equipment for various forms of sprays electric and electric light baths, high frequency, sinusoidal and galvanic currents. Vibratory Massage, etc. Thoroughly trained nurses and attendants. Write for Booklet, address Dept. F

WASHINGTON SANITARIUM, Takoma Park Station, Washington, D. C.

N. B.—Offensive or Contagious Diseases not received.

The Jackson Health Resort

On the Delaware, Lackawanna & Western Railway

Dansville, New York

The growth of 56 years of experience in Caring for Invalids

Spend your **Summer in the North** at this leading health resort.

For seekers after Health and Rest. A real HEALTH resort for those who are SICK, and a real REST resort for those who are TIRED OUT.

Situated amid delightful picturesque scenery. Fireproof main building, equipped with every appliance for sanitation, comfort and treatment.

Physicians will make no mistake in directing patients to **THE JACKSON.** . . . . . Write for literature.

OXFORD RETREAT

OXFORD, OHIO

Nervous and Mental Diseases
Alcohol and Drug Addictions
FOR MEN AND WOMEN

96 Acres Lawn and Forest. Buildings Modern and First-Class in all Appointments. Thoroughly Equipped. Of Easy Access—39 Miles from Cincinnati, on C. H. & D. R. R. 10 Trains Daily.

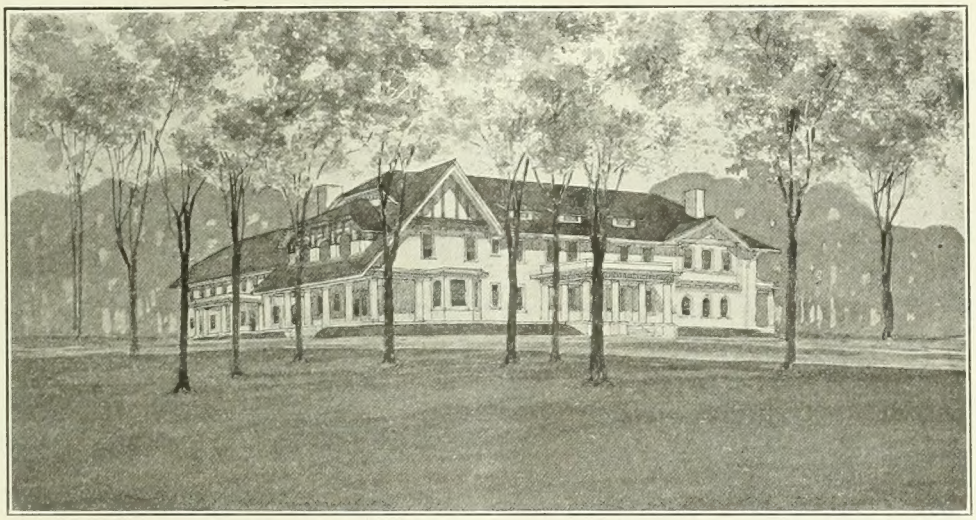
THE PINES

An Annex for Nervous Women
Write for Descriptive Circular
R. HARVEY COOK, M.D., Physician-in-Chief

Patronize our advertisers—mention the Journal when you write them.

LYNNHURST SANITARIUM

For Nervous Diseases, Mild Mental Disorders; an Improved Treatment for Opium-Morphine Addiction, which Eliminates Suffering and Craving



Situated in the suburbs of Memphis, Tennessee, on 28 acres of beautiful woodland and ornamental shrubbery. MODERN AND APPROVED METHODS IN CONSTRUCTION AND EQUIPMENT. Thorough ventilation, sanitary plumbing, low pressure steam heat, electric light and fire protection. Pure water. Experienced nurses. Special facilities for giving hydrotherapy, electrotherapy, massage, physical culture and rest treatment. New buildings completed in March, 1915. Address

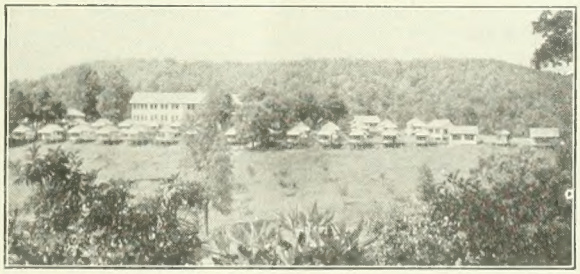
S. T. RUCKER, M. D., Office, Goodwin Institute MEMPHIS, TENN.

DR. MARY E. LAPHAM DR. STURTEVANT MACPHERSON, Resident Physician

Highlands Camp Sanatorium

HIGHLANDS, N. C.

A fully equipped private institution for the treatment of diseases of the lungs and throat, situated amid beautiful surroundings in the mountains of Western North Carolina at an altitude of 3850 feet (greatest altitude of any town east of the Rocky Mountains)



Steam heat, electric lights and call bells and all other modern conveniences. Complete X-Ray equipment. The latest approved methods of Europe and America used.

Daily auto livery service between Highlands and Seneca and Walhalla, S. C.

WINTER CLIMATE IDEAL.

SYMPTOMATIC

FOOD—The very best the market affords.

NURSING—Head nurse, two trained nurses, one special nurse for diet cooking.

ALTITUDE AND CLIMATE—3,850 feet above sea level. This height, together with the southern latitude, produces an ideal year-'round climate for the treatment of pulmonary troubles. Increases resistence through the rise of blood pressure, number of red blood cells and per cent. of hemoglobin—is singularly bracing and strengthening—a strong tonic to digestion.

SPECIFIC

IMMUNIZATION—With Dr. von Ruck's vaccine under the supervision of Dr. Sturtevant Macpherson.

Dr. Macpherson was associated with the von Rucks from the incipiency of this line of treatment, and is thoroughly familiar with every phase of its development and application.

For Booklet, write

F. D. COBURN

Manager

SURGICAL

For Progressive Cases Only.

FOR BRONCHIETATIC CAVITIES—We advise ligation of the pulmonary vessels according to Sauerbruch and Bruns.

FOR FAR-ADVANCED CASES WITHOUT COMPLICATIONS—We compress the lung according to Forlanini. In four years this method has given us over thirty per cent. of marked improvement in advanced cases utterly beyond the reach of medical efforts.

WHEN ADHESIONS PREVENT THE COMPRESSION OF THE LUNGS—We advise its collapse by a Sauerbruch operation.

FOR APICAL CAVITIES NOT COLLAPSED BY AN ARTIFICIAL PNEUMOTHORAX—We advise direct compression according to Baer.

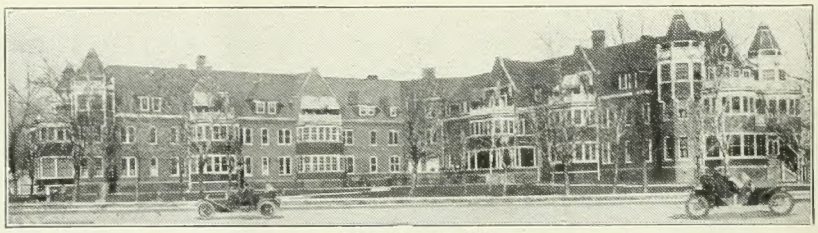
Patronize our advertisers—mention the Journal when you write them.

GLOCKNER SANATORIUM

NORTH TEJON
COLORADO SPRINGS, COL.

CLIMATE
CARE
COMFORTS

For
Pulmonary
Cases

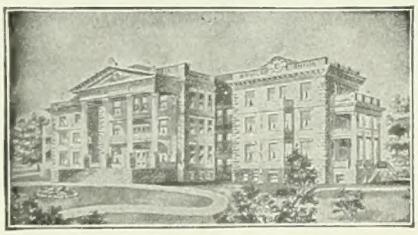


FOUNDED IN 1889

SOUTH FRONT

A $300,000 Sanatorium with surgical annex, modern buildings and equipment. Located amid scenic grandeurs. For 25 years successfully engaged in caring for the health-seeker. Rates $15 to $35 per week. Write for catalog, mentioning this Journal.

WAUKESHA SPRINGS SANITARIUM



FOR THE CARE AND TREATMENT OF

NERVOUS DISEASES

BUILDING ABSOLUTELY FIREPROOF

BYRON M. CAPLES, M.D., Supt.
WAUKESHA, WIS.

SIELING'S SANITARIUM

Pine Crest, Phone, Caton 334 Catonsville, Md.

HENRY B. KOLB, M.D., Medical Director, Phone, South 80
For circular and rates, address Supt., Miss Anna A. Sieling, R.N.
A well equipped Sanitarium for the treatment of **Mental** and **Nervous Diseases, Drug** and **Alcohol Habits,** etc.

Private Maternity Home

For deserving unfortunate, unmarried girls, recommended by their physician. Quiet, homelike, exclusive, protective, strictly ethical. Good homes for infants provided if desired. Rates reasonable. Correspondence and co-operation solicited room physicians.

Address: ROSE MASSOTH, R. N. Supt.

ARGO LYING-IN HOSPITAL

ARGO, ILLINOIS, Cook Co. Phone: Summit 178 M.

PEARSON HOME

FOR THE TREATMENT OF

Drug Addictions

Avoidance of shock and suffering enables us to treat safely and successfully those extreme cases of morphinism that from long continued heavy doses are in poor physical condition.

Hillsdale, Baltimore County, Maryland.

SOUTH HOUSTON MATERNITY SANITARIUM

Box 596, Houston, Texas.

Twenty-five minutes ride from Houston on the Interurban. Take car at Texas and Main streets. Long distance telephone in Sanitarium.

TO THE MEDICAL PROFESSION:

I desire to call attention to my private Maternity Home for patients before and during confinement.

This institution is home-like in every particular, screened throughout; hot and cold baths and all other customary conveniences.

I will accept the guarantee of the regular medical profession and will ask no questions of patients, treating such with the utmost courtesy at all times.

I am prepared to secure the adoption of infants into first-class homes, as I have applicants on hand from the best people at all times.

I am in a position to secure the best medical service in the city, and have in constant attendance the necessary number of trained nurses. Patients are at liberty to use the physician of their choice, provided such physician is an ethical, legal practitioner.

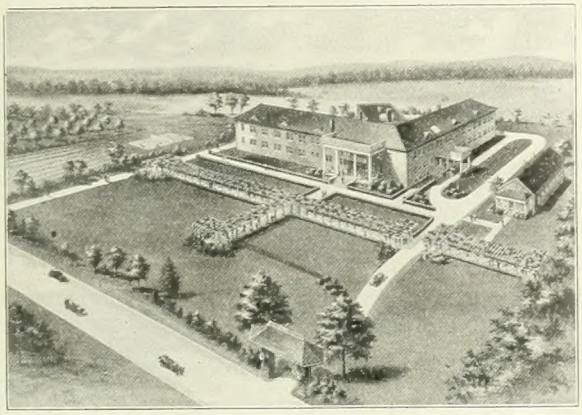
Interurban car line passes within a block of the Home. I will attend to baggage, etc. Full directions, and any further information by mail.

MRS. J. C. McDEARMON, Matron.

THE CHESTON KING SANITARIUM

SUCCESSOR TO HOWELL PARK SANITARIUM

PEACHTREE ROAD, ATLANTA, GA. R. F. D. No. 4.



For the treatment of

NERVOUS AND MENTAL DISEASES
ALCOHOL AND DRUG ADDICTIONS

The South's most beautiful Sanitarium, completed August, 1914, on acreage of Peachtree Road, twenty minutes drive from Atlanta, and situated between The Capital City Country Club and Greater Oglethorpe University. The buildings are of concrete, pressed brick and tile roof, all rooms are outside, with a purpose single to light and ventilation. Complete system of baths. The water supply is from an artesian well.

There is installed in all the buildings vapor heat and the indirect lighting system. All of the latest approved treatments are used. Patients admitted to our Sanitarium, can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician is in constant attendance.

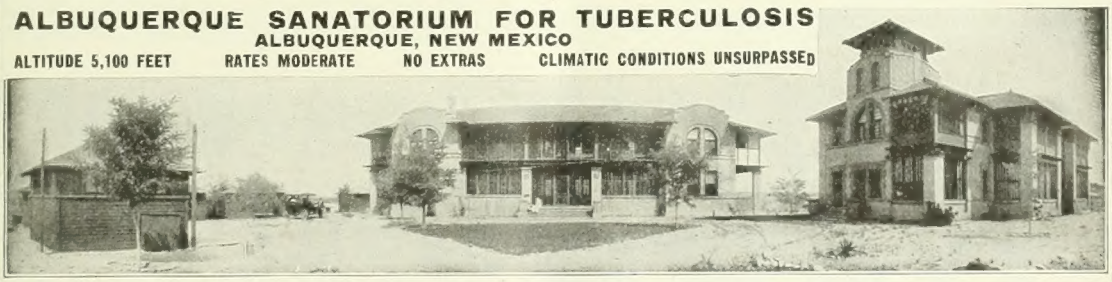
Mail Address: DR. CHESTON KING,
DR. LEWIS M. GAINES, Medical Directors.
ATLANTA, GA., R. F. D. No. 4, or
1023 Empire Bldg.

DR. W. A. GARDNER,
Asst. Med. Director.

ALBUQUERQUE SANATORIUM FOR TUBERCULOSIS

ALBUQUERQUE, NEW MEXICO

ALTITUDE 5,100 FEET RATES MODERATE NO EXTRAS CLIMATIC CONDITIONS UNSURPASSED



A private sanatorium where the closest personal attention is given each patient. Complete laboratory and X-Ray equipment for diagnostic purposes. Compression of the lung and sun-bath treatment after the method of Rollier. Steam heat, hot and cold water, electric lights, call bells, local and long distance telephones and private porches for each room. Bungalows if desired.

Situated but 1½ miles from Albuquerque, the largest city and best market of New Mexico. Permits of excellent meals and service at a moderate price. **Write for Booklet B.**

A. G. SHORTLE, M. D., L. S. PETERS, M. D., Associate Physicians.

Kenilworth Sanitarium

(Established 1905)

Kenilworth, Illinois

(C. & N. W. Railway. Six miles north of Chicago)

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods.

An adequate night nursing service maintained. Sound proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

RESIDENT MEDICAL STAFF:

Margaret S. Grant, M.D. Sherman Brown, M.D., Sanger Brown, M.D.,

Chicago Office 59 East Madison Street.

Telephone Randolph 5794. Hours 11 to 1, by appointment only.

All correspondence should be addressed to

Kenilworth Sanitarium. - Kenilworth, Illinois

The Watauga Sanitarium, Ridgetop, Tenn.

In the Foothills of Tennessee's Beautiful and Picturesque Mountains

STAFF

DR. WILLIAM LITTERER, Bacteriologist-in-Chief.
DR. W. A. BRYAN, Surgeon-in-Chief.
DR. J. M. KING, Dermatologist.
DR. G. C. SAVAGE, Eye, Ear, Nose and Throat.
DR. O. N. BRYAN, Diagnostician.
DR. CHAS. A. ROBERTSON, Medical Director.
DR. R. BOYD BOGLE, X-Ray Diagnosis.

For Tuberculosis in All Forms

Location ideal, elevation about 1,000 feet, buildings modern, hot and cold running water, lighted with gas, perfect sewerage, excellent water supply. The Sanitarium operates its own dairy and truck farms. Equipment includes our own steam laundry, and is in every way up to now.

Tuberculins and Vaccines Administered

in suitable cases. Hydrotherapy modified, after the method of Rollier. Rates very reasonable. Address

THE WATAUGA SANITARIUM, Ridgetop, Tenn.

or Mr. James A. Yowell, Mr. Joe E. Yowell, Sec.-Treas., 623 Stahlman Bldg., Nashville, Tenn.

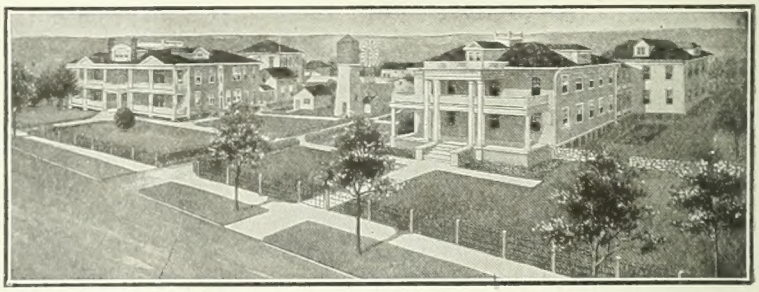
ARLINGTON HEIGHTS SANITARIUM

(Incorporated Under the Laws of Texas.)

For Nervous Diseases, Selected Cases of Mental Diseases, Drug and Alcohol Addictions.

P. O. Box 978 Ft. Worth, Tex.

WILMER L. ALLISON, M. D., Supt. and Resident Physician. For several years first Ass't. Supt. of Asylum at San Antonio, Tex.
JAMES D. BOZEMAN, M. D., Resident Physician.
BRUCE ALLISON, M. D., Resident Physician.
JOHN S. TURNER, M. D., Consulting Physician. Late Supt. of Terrell Asylum.



HIGH OAKS

Lexington, Kentucky

Dr. Sprague's Sanatorium

for nervous and mild mental diseases, liquor and drug addictions. Twenty-five years experience in treating these cases. Especially trained nurses. Hydrotherapy, Electricity, Vibration Massage. A psychopathic hospital for acute cases combined with comfortable home for quiet patients unable to live in private families. For the latter cases, lower rates are made for extended periods. 81 acres. New buildings. Beautifully wooded grounds. Resident musicians. In and out door games. Address, GEO. P. SPRAGUE, M.D., Lexington, Ky.

OCONOMOWOC HEALTH RESORT - - OCONOMOWOC WISCONSIN

For Nervous and Mild Mental Diseases and Addiction Cases

Five minutes walk from Interurban between Oconomowoc and Milwaukee
On main line C. M. & St. Paul Railway, 30 miles west of Milwaukee.

New Building Absolutely Fireproof

Built and equipped to supply the demand of the neurasthenic, border-line and undisturbed mental case, for a high-class home free from contact with the palpably insane, and devoid of the institutional atmosphere.

Forty-one acres of natural park in the heart of the famous Wisconsin Lake Resort region. Rural environment, yet readily accessible. A beautiful country in which to convalesce.

The new building has been designed to encompass every requirement of modern sanitarium construction, the comfort and welfare of the patient having been provided for in every respect. The bath department is unusually complete and up-to-date.

Number of patients limited, assuring the personal attention of the resident physician in charge.

Arthur W. Rogers, B.L., M.D., Resident Physician in Charge

THE RICHARD GUNDRY HOME

HARLEM LODGE
CATONSVILLE, NEAR BALTIMORE, MARYLAND

ESTABLISHED IN 1891

A well equipped sanitarium and a delightfully homelike, restful place, for the care and treatment of nervous and mild mental cases, drug and alcoholic addictions. For rates and illustrated booklet, apply to

Dr. Richard F. Gundry, Catonsville, Md.

New Mexico Cottage Sanatorium

E. S. BULLOCK, M.D.
Physician-in-Chief
I. D. LOEWY, M.D.
Associate Physician

—FOR THE TREATMENT OF—

TUBERCULOSIS

WAYNE MacVEAGH WILSON, Manager
E. D. NIXSON,
Assistant Manager

No region in the world equals the high altitude section of the southwestern portion of the United States for the treatment of tuberculosis. And of all the cities and towns in this section, SILVER CITY stands preeminent as a health resort.

Wonderful all-year-round climate. Moderate winters. Cool summers. Over three hundred days of sunshine each year. Hemorrhages rare. Night sweats unknown.

Splendidly equipped institution. Tuberculin in selected cases. Artificial pneumothorax. Heliotherapy. X-ray. Rates moderate.

Write for illustrated booklet,

The Land-of-the-Well Country Silver City, New Mexico

Dr. Board's Sanatorium

OFFICERS AND DIRECTORS
Dr. Milton Board, Pres. and Supt.
(Late Supt. West. Ky. Asylum for the Insane.)
(Late Member of Ky. State Board of Control Charitable Institutions.)
Dr. J. T. Windell, Vice-President.
Dr. Earl Moorman, Secy. and Asst.
Dr. W. E. Gardner, (Supt Central Ky. Asylum.)
Dr. A. T. McCormack
Dr. Leon L. Solomon
Dr. Irvin Abell

TELEPHONES.
Cumberland ...S. 480
Home 5996

REFERENCE.
The Medical Profession of Kentucky.

A modern, thoroughly equipped private institution for the treatment of *MENTAL AND NERVOUS DISEASES, DRUG ADDICTIONS AND ALCOHOLICS.*

Situated in the heart of the city, convenient and easy of access yet quiet and secluded. Opposite beautiful Central Park. Terms $20.00 to $35.00 per week. Outside patients charged office fees. For further information address

DR. MILTON BOARD, Supt., 1412 Sixth St., Louisville, Ky.

THE MERIWETHER HOSPITAL AND TRAINING SCHOOL FOR NURSES, Inc.

ASHEVILLE, N. C.

Since the death of Dr. F. T. Meriwether, his magnificent institution has been converted into a general hospital, receiving Surgical, Gynecological and Medical cases

The staff as selected by the management is as follows

MEDICAL—Dr. C. P. Ambler, Dean; Dr. M. L. Stevens, Dr. C. E. Cotton, Dr. A. F. Reeves.
SURGICAL—Dr. Eugene B. Glenn, Vice-Dean; Dr. F. Web Griffith.
EYE, EAR, NOSE AND THROAT—Dr. E. R. Russell, Dr. J. B. Green, Dr. R. G. Buckner.
NEUROLOGY—Dr. R. S. Carroll.
GASTROENTEROLOGY—Dr. A. W. Calloway.
DERMATOLOGY—Dr. W. C. Brownson.
PEDIATRICS—Dr. L. W. Elias.
G. U. AND DISEASES OF THE RECTUM—Dr. P. R. Terry.
ANESTHETIST AND HOUSE PHYSICIAN—Dr. W. J. Hunnicutt.

ALL COMMUNICATIONS SHOULD BE ADDRESSED TO

MISS FLORENCE PITTS, Superintendent, or MR. D. L. MERIWETHER, Business Manager
24 GROVE ST., ASHEVILLE, N. C.

PETTEY & WALLACE SANITARIUM

958 S. Fifth Street
MEMPHIS TENN.

FOR THE TREATMENT OF

Drug Addiction, Alcoholism, Mental and Nervous Diseases

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical. Complete equipment. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method under his personal supervision.

Detached building for mental patients.

DOWNEY HOSPITAL

A new, modern, up-todate two-story building with roof garden, equipped with steam heat, electric lights, electric signal system and new furnishings. All rooms outside, with or without private bath; hot and cold water in each. Fully equipped sterilizing and operating roms. Patients admitted suffering from Gynecological, Obstetrical, Abdominal and General Surgical conditions. Limited number of medical cases accepted. No contagious, alcoholic or mental cases admitted. Trained graduate nurses and excellent training school. For further information, address **DOWNEY HOSPITAL, Gainesville, Ga.**

Dr. Barnes' Sanitarium = = Stamford, Conn.

For Mental and Nervous Diseases and General Invalidism

Splendid location overlooking Long Island Sound and City. Facilities for care and treatment unsurpassed. Separate department for cases of inebriety. 50 minutes from New York City. For terms and informatiton apply to

F. H. BARNES, M. D., Stamford, Conn. Long Distance Telephone 1867

Dr. Broughton's Sanitarium

ESTABLISHED 1901

For OPIUM, MORPHINE, COCAINE and OTHER DRUG ADDICTIONS, INCLUDING ALCOHOL and SPECIAL NERVOUS CASES. Methods easy, regular, humane. Good heat, light, water, help, board, etc. Number limited to 44. A well kept home. Address, DR. BROUGHTON'S SANITARIUM, or, DR. G. A. WEIRICK, Phone 536, 2007 South Main Street, ROCKFORD, ILLINOIS.

THE CINCINNATI SANITARIUM

INCORPORATED 1873.

FOR MENTAL AND NERVOUS DISEASES.

A strictly modern hospital, fully equipped for the scientific treatment of all nervous and mental affections. Situation retired and accessible. For details, write for descriptive pamphlet.

F. W. LANGDON, M.D., Medical Director.
B. A. WILLIAMS, M.D., Resident Physician.
EMERSON A. NORTH, M.D., Resident Physician
GEORGIA E. FINLEY, M.D., Medical Matron.
H. P. COLLINS, Business Manager.

BOX 4, COLLEGE HILL, CINCINNATI, OHIO.

Patronize our advertisers—mention the Journal when you write them.

G. H. MOODY, M.D.
Resident Physician

T. L. MOODY, M.D.
Resident Physician

J. A. McINTOSH, M.D.
Resident Physician

DR. MOODY'S SANITARIUM (Six Modern Buildings)
(Incorporated under the Laws of Texas.)
For Nervous Diseases, Selected Cases of Mental Diseases, Drug and Alcohol Addictions
315 Brackenridge Avenue *SAN ANTONIO, TEXAS*

ST. LUKE'S HOSPITAL
Richmond, Va.

Personally conducted by Dr. Stuart McGuire
for the Accommodation of his Surgical Patients.

New York Polyclinic

Medical School and Hospital

341-351 West 50th Street, New York City

Post Graduate Course for Physicians. New building, new equipment.

An Ambulance Service in a district with 360,000 people, furnishes the best possible acute surgical and medical service. In order to secure the full benefit of this service, rooms in the hospital are provided for students.

Special Work for those wishing to study selected branches, in carefully arranged clinics.

General and Complete Courses for Physicians seeking modern methods of diagnosis and treatment.

Modern Laboratory Facilities—Laboratory and Clinical Courses in preparation and administration of autogenous vaccines and tuberculin in gland and bone involvement. Students may matriculate at any time.

For further information address, JOHN A. WYETH, M.D., LL.D., President of the Faculty, or, MR. JAMES U. NORRIS, Superintendent.

THE NEUROLOGICAL SANATORIUM

Incorporated

PRIVATE SANATORIUM OF

DR. BEVERLEY R. TUCKER

A private institution for the treatment of **Nervous Diseases.** Equipped with Hydrotherapy, Medical Electricity, Exercises and Massage. Nurses trained in the care of nervous patients.

102 and 104 E. Grace St., Richmond, Va.

The Stewart Home and School

For Nervous, Backward, Feeble-Minded Children and Adults

One of the best equipped private institutions in the country providing Mental and Physical development. Cottage system. Five buildings, Electric lighted and steam heated. Delightfully located on estate of 500 acres in the blue grass section of Kentucky. Highly endorsed by prominent physicians and patrons. A beautiful book will be mailed upon application.

Dr. JNO. P. STEWART,
Box 3, Farmdale, Ky.

Patronize our advertisers—mention the Journal when you write them.

Succeeding Telfair Sanitarium

Glenwood Park Sanitarium

GREENSBORO, NORTH CAROLINA

W. C. Ashworth, M.D., Superintendent.

A private clinical institution offering superior advantages for the scientific treatment of Nervous Diseases, Drug and Alcoholic Addictions. A modern building of 30 rooms, well heated and lighted and fully equipped with hot and cold baths, up-to-date electrical apparatus, etc. Charming location in quiet suburb, where all publicity can be avoided. Patients given human treatment. Gradual reduction method used in all habit cases. Write for terms.

Medical College of Virginia

UNIVERSITY COLLEGE OF MEDICINE
MEDICAL COLLEGE OF VIRGINIA

(Consolidated)

Medicine - Dentistry - Pharmacy

STUART McGUIRE, M.D., Dean

New college building, completely equipped and modern laboratories. Extensive Dispensary service. Hospital facilities furnish 400 clinical beds; individual instruction; experienced faculty; practical curriculum. Seventy-sixth session opens September 15, 1914. For catalogue or information address

J. R. McCAULEY, Secretary,
1140 E. Clay Street Richmond, Virginia

University of Cincinnati

COLLEGE OF MEDICINE

(Ohio Miami Medical College of Medicine) (A partially endowed University Medical College)

ENTRANCE REQUIREMENTS. State Board Certificate 1st Grade High School work. Two years' specified work in Physics, Chemistry (inorganic and organic), Biology and a modern language.

THE COLLEGE CONTROLS FOR TEACHING PURPOSES:

685 beds for general diseases in the Cincinnati General Hospital.
165 beds for contagious diseases in the Cincinnati General Hospital.
350 beds for tubercular patients in the Branch Hospital.

1,200 Total.

Students of the Senior Class will serve as clerks in the Wards of the New Cincinnati General Hospital (870 beds), built at a cost of $4,000,000.00. **College Dispensary Clinic of over 20,000 patients per annum. Summer pre-medical courses.** The New College of Medicine is to be built adjacent to the **New Cincinnati General Hospital.** Full time laboratory instructors. Small classes, individual instruction. May Internships available in Cincinnati and other cities of the state. Course four years of 32 weeks each. Sessions open in last week of September. For detailed information, address, THE DEAN, Clifton Ave., near Vine St., Cincinnati, Ohio.

UNIVERSITY OF ALABAMA
SCHOOL OF MEDICINE

MOBILE, ALABAMA.

Rated in Class A by the Council on Education of the American Medical Association.

Registered as a standard school of medicine by the New York State Educational Department.

Member of the Association of American Medical Colleges.

ENTRANCE REQUIREMENT: One year of college work in Chemistry, Physics, Biology and a modern language, in addition to the usual four year high school course.

Fees, $150.00 per session.

The DEPARTMENT OF PHARMACY offers a two-years course for the degree of Ph. G. Fees, $100.00 per session.

For copy of the annual announcement and any information, address

THE DEAN, SCHOOL OF MEDICINE, UNIVERSITY OF ALABAMA
St. Anthony and Lawrence Streets Mobile, Alabama

Patronize our advertisers—mention the Journal when you write them.

NEW ORLEANS POST-GRADUATE SCHOOL OF MEDICINE

WINTER SESSION BEGINS OCTOBER 26TH.

UP-TO-DATE POST-GRADUATE INSTRUCTION to meet the requirements of the General practitioner or the Specialist in all branches of Medicine and Surgery.

ABUNDANT CLINICAL MATERIAL. Unexcelled clinical facilities in all the hospitals of the city of New Orleans, particularly the Great Charity Hospital where members of the faculty occupy the highest positions on the Visiting Staff.

FACULTY LARGE, permitting *individual instruction* and *special work* if desired.

For further information address Joseph A. Danna, M. D., Secretary, Suite 716 Maison Blanche Bldg., New Orleans, La.

The Medico-Chirurgical College of Philadelphia
Department of Medicine

Located in America's Medical Center. A School which offers Peculiar Advantages for Completing a Course under the Standards of the American Medical Association.

Completion of standard four-year high school course, or its equivalent, plus one year of work of college grade in Physics, Chemistry, Biology and one modern language required for entrance. All credentials must be approved by Pennsylvania State Examiner under specifications of State laws. **A Pre-Medical Course** in Physics, Chemistry, Biology and German is given, complying with Pennsylvania State and American Medical Association requirements. **The Course in Medicine** comprises four graded sessions of eight months each. Among the special features are Individual Laboratory and Practical Work in well-equipped Laboratories and Hospital, Free Quizzes, Ward Classes limited in size, Systematic Clinical Conferences, Modified and Modern Seminar Methods. Abundant clinical material is supplied by the College Hospital, Philadelphia General Hospital (1500 beds), and the Municipal Hospital for Contagious Diseases. Also a Department of Dentistry and a Department of Pharmacy and Chemistry. For information, etc. address **SENECA EGBERT, M.D., Dean, 17th and Cherry Streets, Philadelphia, Pa.**

Increased Opportunities for Post Graduate Medical Work in Chicago

THE CHICAGO POLICLINIC and THE CHICAGO POST GRADUATE SCHOOL have affiliated and are now able to offer greatly increased opportunities and facilities for systematic post graduate work. After May 1, 1915, these institutions will be conducted as a single school, one ticket admitting the holder to the joint work of both institutions, and the schedules of clinics and didactic instruction will be so arranged that anyone wishing to pursue special lines will find all day work in the specialty. Personal instruction will be given in all departments, including laboratory work and operative work on the cadaver. For details write either

THE CHICAGO POLICLINIC
M. L. Harris, Sec'y.
Dept. U. 219 W. Chicago Av.

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO
Emil Ries, Sec'y.
Dept. 2400 S. Dearborn St.

Adequate Laboratory Service for Physicians

The Gradwohl Biological Laboratories have every known facility for accurate and prompt examinations of all kinds for physicians in need of laboratory help in their diagnosis.

Our Work Comprises:

Bacteriology **Pathology** **Serology**
Parasitology **Clinical Chemistry**

Complete Wassermann Test $5

Including a control test called the HECHT-WEINBERG TEST introduced into this country by us and proven to be the best control over the Wassermann, yet brought out.
AUTOGENOUS VACCINES- GONORRHEAL COMPLEMENT FIXATION TEST

FREE Sterile Containers for sending in blood.
Culture Tubes for making Autogenous Vaccines.
Literature on all These Tests, showing their various points of usefulness.

ASK FOR THEM

Correspond with us

Gradwohl Biological Laboratories

803 N. Garrison Ave. R. B. H. GRADWOHL, Director **St. Louis, Mo.**

Early Diagnosis

One of the Most Important Factors in Successful Treatment.

The Laboratory will often permit of a positive diagnosis before clinical symptoms are well defined.

WHY NOT AVAIL YOURSELF OF THE SERVICES OF THE CHICAGO LABORATORY FOR YOUR DIAGNOSTIC WORK?

ALL SEROLOGICAL TESTS NOW REDUCED TO $5.00.

Wassermann Test controlled by Noguchi or Hecht-Weinberg Methods.

Complement Fixation Test for Gonorrhea.

Abderhalden's Sero-Diagnosis of Pregnancy, Cancer or Dementia praecox.

Lange's colloidal Gold Test for differential diagnosis of Spinal Fluid.

We are prepared to perform all types of laboratory examinations for diagnostic purposes and can assure you accuracy and efficiency from our staff of experienced workers in this field.

Fee tables for all examinations and full directions for forwarding specimens, on request. Containers and cultures media furnished.

CHICAGO LABORATORY

25 E. Washington Street CHICAGO Phone 3610 Randolph.

RALPH W. WEBSTER, M.D., PH.D., Director of Chemical Department.
THOMAS L. DAGG, M.D., Director of Pathological Department.
C. CHURCHILL CROY, M.D., Director of Bacteriological Department.

The B-P Abdominal Supporter

Made to measure—not a stock affair.

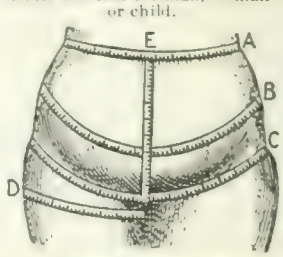
A new idea—cool—comfortable. Fits perfectly. Does not slip. A support—not a compress. No long wait. Indicated in

Pregnancy
Obesity
Hernias
Post-operative

We Make a Special Support for Entero-optosis

Write us for prices and literature

State whether for man, woman or child.



Take snug measurements over the skin.

A—Waist.
B—Abdomen.
C—Hips.
D—Thigh.
E—Height.

BOLEN MANUFACTURING COMPANY

213 BAIRD BLDG., OMAHA, NEB.

Patronize our advertisers—mention the Journal when you write them.

Tablets
5 grains, bottles of one hundred and boxes of ten

Powder
In one-ounce cartons

Suppositories
10 grains, boxes of six

Schering & Glatz
150-152 Maiden Lane, New York

A soluble, readily absorbed and promptly excreted, practical, efficient and safe
Hypnotic, Sedative
and
Antispasmodic
which is firmly holding its place against all new comers.

Medinal

FREE COPY TO PHYSICIANS

It has been estimated that probably 90% of the families having sickness cannot afford a Trained Nurse, or prefer to nurse the patient themselves, unless the case is very serious or contagious.

The Home Folks, as a rule, do not know how to carry out your instructions; neither do they know how to make the patient comfortable, nor the best Nursing Appliances to get.

This Book saves a great deal of your valuable time by telling the Home Folks how to do these things. It is just the kind of Book you would select yourself for distribution amongst your patients.

A copy will be sent to you FREE on receipt of your card or prescription blank; and a copy will be sent to any of your patients on receipt of 25 cents.

MEINECKE & COMPANY
Advanced Specialties for Hospital and Sick Room
66-68-70 PARK PLACE, NEW YORK

EDUCATORS AND LABORATORY DIRECTORS

Especially will be interested in these

DIAGNOSTIC AGENTS AND APPLIANCES

PHENOL-SULPHONE-PHTHALEIN AMPULES: these contain the Mono-sodium Salt in biologically standardized, sterile solution. (006-1Cc.,) ready for use. Renal functional test. More than enough for one test in each ampule. In boxes of ten ampules. Supplied at $1.00 per box.

UREASE-DUNNING: For the rapid and accurate estimation of urea, in urine and in blood. Supplied in packages of 40 twenty-five milligram tablets at $1.00 per package.

COLORIMETERS: FOR PHENOLSULPHONEPHTHALEIN. Rowntree and Geraghty Modification of Hellige, $20.00; with ampoules $21.00. Dunning $5.00; with ampules $6.00.

KEIDEL VACUUM BLEEDING TUBE: For obtaining specimens for the Wassermann and other blood reactions. Convenient and protective. Per dozen, $1.50. Special prices for large quantities.

Further information upon request

HYNSON, WESTCOTT & COMPANY

BALTIMORE Pharmaceutical Laboratory MARYLAND

IT HAS BEEN PROVEN

Abundantly Proven

By a number of competent disinterested investigators—Bacteriologists and Clinicians—that tablets containing especially active vigorous and viable *Bacilli Lactis Bulgarici* can be and have been successfully marketed.

BULGARA TABLETS, H. W. & CO.

ARE SUCH TABLETS

Convenient—Possible to Preserve—Pleasant to Take—Handy to Carry—Easily Powdered.

The Council on Pharmacy and Chemistry HAS REPORTED see The Journal A.M.A., December 6, 1913:

"Preparation of Hynson, Westcott & Co., Bulgara tablets. Five original packages of these tablets were examined. The tablets contained pure cultures of Bulgarian bacilli as shown by microscopic examination. In litmus-milk typical curd and acid reactions were produced. Inoculations into sterile milk produced typical coagulum, with very little whey and characteristic taste and appearance. The action was somewhat slower, however, than is produced by liquid culture. All five samples acted exactly alike.'

"The action was somewhat slower" is the only essential difference between this report and that on the best liquid cultures. The little extra time required to curdle milk in a test tube will certainly not apply where the tablets are ingested three times a day and when fermentation is constantly going on.

HYNSON, WESTCOTT & CO.

BALTIMORE, MARYLAND

The Products of this Labaratory are now carried in stock by enterprising pharmacists all over the United States.

Armour's LABORATORY Products

Our facilities for manufacturing the organo-therapeutic agents are unequaled

Armour's

Renal Substance
Powder

Parathyroids
Powder

Pituitary Liquid
(Pituitrin)
Standardized

Corpus Luteum
Powder

Duodenin

(Trade Mark)

(*Secretin plus enterokinase*)

RECOMMENDED in the treatment of intestinal disorders, especially those due to excessive proteid diet and malassimilation of proteins, on the theory that the hormones, prosecretin and enterokinase stimulate the glands of digestion and activate their secretions

Duodenin is supplied in 1-grain tablets, bottles of 100

Literature to Medical Men on Request

ARMOUR AND COMPANY Chicago

Patronize our advertisers—mention the Journal when you write them

SOUTHERN MEDICAL JOURNAL

JOURNAL OF THE SOUTHERN MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Editorial and Business Offices: Mobile, Alabama Publication Office: Nashville, Tennessee
Address all communications to Mobile Office

Volume VIII MAY 1, 1915 Number 5

SPECIAL ARTICLE

THE WEALTH OF HEALTH*

By Harvey W. Wiley, M.D.,
Washington, D. C.

Mr. President and Members of the Association: I have often heard it said that the way to a man's heart is through his stomach. It has been a long time since I studied anatomy. A great many strange things have come up since then, and among them radium, and there may be new discoveries in anatomy, but when I studied anatomy there was no opening between the stomach and the heart. It is true that the cardiac orifice lies near the heart, but as far as I know there was no communication between them. I say, as far as I know, because I received a letter the other day from a renowned practitioner of a new school of so-called medicine, criticising some statements I had made respecting that school, and calling attention to the fact that the great artery which supplies the brain enters the brain through the center of the spinal cord. Well, if anatomy has changed that much since I studied it there may be a communication between the stomach and the heart. (Laughter.) I know the stomach is the great controlling power of humanity, and through it nations are built up and torn down. The lover and the husband have a proper appreciation of this condition, and most of us who have tried matrimony for a few years understand the virtues of good cooking and good food in softening the asperities of domestic felicity. (Applause.) But if I may paraphrase this saying which I have quoted, I would say this: The way to a man's heart or his brain is through his pocketbook. That is peculiarly true of our own country. With us there seems to be a direct duct from the hip pocket to the hypophysis. We are, I suppose, open to the charge of being a mercenary nation. Only a few years ago our great department of state was known as the "department of dollar diplomacy." A great many of the leading newspapers of this country, if they can find space, carry advertisements of quack medicines to the great disgust and terror of the people. The red dragon of war is discussed chiefly in its relation to American trade. "Is it going to help American trade? If so, it is a jolly good thing. If it is going to hurt American trade, it is a jolly bad thing." So I am trying to reach the people of the country through the usual avenue, the pocketbook. I have chosen for my theme—I have forgotten exactly which it is—the Wealth of Health or the Health of Wealth. Probably you will know exactly what I mean when I say the Wealth of Health.

Can we bring before the American people the idea that health represents money; that it represents invested capital; that it has something to do with dollars and cents? If we can arouse great public interest in this country in

*Public Address, Southern Medical Association, Eighth Annual meeting, Richmond, Va., November 9-12, 1914.

the question of public health we can accomplish a great deal, but it seems we cannot succeed unless we make the public look at it in this sense. If it is an academic propaganda solely it will not have the force and vigor of a real campaign.

Just let me illustrate what I mean by a few examples, as, for instance, the investment in a new-born infant. How much does it cost in dollars and cents? Well, infants cost different amounts. It is largely according to the surgeon whom you get as accoucheur. That is one item of cost, whether you have a midwife at $2.50 or a man of great reputation at $100. At least it costs the devotion and vigor of a woman for a period of nearly nine months. It requires her energy and vitality for another period of a year while the infant is at her breast. An infant a year old will cost the poorest of the people of this country, those who are the least able to pay for it, something like $300, and with some of us rich men it costs us for an infant $1,000, at least, before the end of the first year. (Laughter.) Do you realize how much money is invested in the new-born infant? If you do, what are you going to do with it? If you had $300 in gold would you throw it in the fire; would you squander it uselessly and for improper purposes? No, most of you would cherish it, would hoard it, put it in a savings bank, or invest it where it might bring in other funds or other dividends. What are you doing with the infant? You are letting him die. You have no idea of his value nor how to preserve it, and hence we read the terrible story of infant mortality which threatens the vitality of the race. A great many more than a thousand infants were born in this country today. A thousand infants were born on this 9th day of November, 1914. Put them at the minimum price of $300 apiece, you have $300,000 worth of babies in one day. Where will those 1,000 infants be on the 9th day of November, 1915? They ought to be alive. Some of them will be, but approximately a hundred and twenty even of these precious gift to human ity, costing a minimum of $300 each, will be in their graves before the 9th day of November, 1915. You call this conservation of wealth? You call this taking great care of the material things of this life? Count out the sentiment, and it costs more than all the dollars we can imagine. Put it up to every parent, What are you going to do with this great wealth which is coming to us day by day? We are squandering it like a spendthrift without let or hindrance.

As to the child that grows up, how much does he cost? What is the investment made in a boy or girl of 15? It varies, of course. Let us take the minimum. Let us take those in what we call straitened circumstances. They eat, they have to be clothed, they go to school, and I should say an expenditure of $100 a year would be very little indeed to allow as the average for the upkeep of that child. It is probably a great deal more than this. It has cost something like $2,000 at the minimum to bring that child to the age of 15, and then there is the expense of keeping him thereafter which increases until at 21 he becomes an individual. He starts out for himself. What is the amount the parents invested in a child that reaches the mature age of 21? We can measure that by the earning capacity of the child. If he goes out to labor by the day he may earn $300 a year, and $300 a year is the interest on $5,000 invested. In the boy or girl of 21 we have an investment of at least $5,000. If he has gone through college the annual earning capacity of the college graduate amounts to the interest on $12,000. A boy or girl who has been through college has an investment in his own right of $12,000 or $15,000. What are we doing with this invested capital? Are we trying to save it? Are we trying to conserve it? No, it is the last thing we think of. The last we think of is saving the lives of infants. The last thing we think of is the protection of the child against infectious and contagious diseases. When you go to legislatures or city councils and ask for money with which to protect the precious lives

of humanity, conserve health and lengthen life, you usually get nothing. The hardest dollar to get in this world through a city council, a state legislature, or the national congress, is the dollar to protect the health of the people. Every health officer knows how true this statement is. But what is the spectacle which we see today? The great organization of the National Department of Agriculture spending $100,000 every day for what? An attempt to segregate and quarantine that dreadful disease among cattle in this country, the foot and mouth disease. It is a disease which is not confined to cattle. It often attacks politicians also, and I have known many a one of them who could not open his mouth without putting his foot in it. (Laughter.) And so every official in the Department of Agriculture who has any ability in these things, every veterinarian or inspector, is put at work, and every dollar of available funds is devoted to protecting live stock, the domesticated animals of this country, from this infectious disease. Ten states are quarantined today. Out of ten states today you cannot ship meat or animal food except for immediate slaughter in a few localities, and this is done in the attempt to protect what? The cattle, the pigs and sheep of the farmers of this country. Would you have such an activity as that if bubonic plague should break out in New Orleans, or if cholera should cross the plains of Silesia and come into this country and develop itself? You could hardly quarantine the people against an invasion of plague, they would protest against it. They would not allow it. You would probably be up against the specter of states' rights in any attempt on the part of the national government to segregate the disease and limit its action. Only human animals are affected by this disease; only those we love die, not our valuable stock, not our blooded horses, our registered bulls. No, they say, let men die, let men die.

There is nothing so cheap in this world and in this country today as human life; nothing about which we are so apathetic as human life. In this great free country of ours, about which we boast, especially on the Fourth of July, 9,000 men are killed, wilfully murdered, every year, and on our railways from 12,000 to 15,000 of our innocent citizens are murdered or killed every year, and 75,000 wounded. Innumerable numbers of the human family die every year of avoidable diseases which could be easily put aside, so that they might live. Infants might live and enjoy the schools of our country. Every year 127 out of a thousand children who should be in our schools never appear. They rest under the little stones of the graveyard. So I prove my case that we are absolutely indifferent to human life and human welfare. Yet when we come to speak of our investments, where can we find anything so valuable as the money which is invested in human life? I have always been a conservationist. I am a disciple of my good friend, Gifford Pinchot. I believe in the conservation of our natural and national resources, and I also believe in the conservation of our forests that they may be cut for the common welfare of humanity; I believe in the conservation of our running streams in order that their power may be developed for the common benefit of humanity. I also believe in the preservation of our soils in order that other people and other nations may reap the benefit. I believe in keeping the mineral resources of our country, such as copper, radium, etc., for the common good of humanity and not for the enrichment of a few. I have been a believer in all of these things. But suppose you enumerate all the wealth of all our forests, of all our fields, of all our running streams, of all our mines and minerals, and then add to it all the deposits in our banks and all the investments in our railways, our transportation services, and in all our trade, both internal and external, and lump it altogether, how insignificant is that wealth compared to the lives and health and happiness of the people of this great country. (Applause.)

And so I appeal to the people of this country through their pocketbooks, through the

investment they have in their own lives and the lives of their friends and fellow citizens. If we could so awaken the people to become interested in this great problem of conservation of health and happiness, without paying any less attention to the conservation of our material national assets, we would do much more for humanity. And so I come here tonight to say a word to our men who are money-mad, to our women who are fashion-mad, to our youth who are football-mad, to our politicians who are boss-mad, and beg them to consider that which is the real thing in this country, the welfare of the citizen, his happiness and his efficiency. This almost unspeakable wealth invested in the hundred millions of our people should also be conserved, should always be considered, and also be invested and husbanded as other material wealth is treated, in order that it may bring forth its full interest and pay dividends quarterly and semi-annually and annually on this great investment. If these dividends be cut off, we become indeed bankrupt. How long do we live? About forty-four years is the average of human life in the United States. We are not the worst nor the best among the nations of the earth. There are a few nations where the people live longer than we, and there are a number where the average of life is shorter than ours. And so we stand on this middle ground; yet we ought to lead the nations of the earth in this conservation movement. We ought to, and we could easily if we would, put the people of this country at the front for longevity. We often refer to Bulgaria in connection with methods of increasing longevity, but if you read the statistics collected by the Census Bureau of the United States, you will find we live longer in this country than the people of Bulgaria with all of its sour milk. Buttermilk is not the only thing we need. I have no objection to it. I like it. There is something more than the bacillus Bulgaricus in taking care of our invested wealth from the time we are born until the good providence of God calls us hence. Let us not hoard our wealth after the manner of the miser. It should be used for the benefit of mankind!

You have already heard from Dr. Kelly that some progress has been made with regard to the treatment of that dreadful disease, cancer, which is decimating humanity and increasing rapidly as the nations grow older. He has justified his position by the statement of the fact that in the early stages relief may be afforded to human beings suffering from this dreadful disease. In most of the diseases which decimate humanity we have already made progress. We may well point with pride to the work Gen. Gorgas has done on the Isthmus of Panama. (Applause.) I do not mention it because Gen. Gorgas is present, but in nearly every address I have made in the last three years, and I have made probably 600 or 700 in all parts of the country, I have pointed out the fact that our lives may be lengthened. I have told people that the healthiest place in the world today is the Panama Zone, whereas, a few years ago it was the most deadly. Let us look for a moment at the history of the brave French people. With engineers equal in skill to any perhaps that we have produced; with enthusiasm; with everything in the world at their command except sanitation, and see what a miserable failure they made in their attempts to dig that ditch! I have said repeatedly, and I say it here, when in the niche of fame there are inscribed the names of those who built the Panama Canal the name of Col. William C. Gorgas will stand out with equal prominence with that of Gen. Goethals as builders of the Panama Canal. (Applause.) We have paid money to keep the stegomyia and microbes out of the zone. It has cost many millions of dollars, and yet we let the anopheles live all over this country. We are not spending the money to keep ourselves alive that we spent to keep alive those patient diggers of dirt in the Panama Zone. Well, I am glad if we keep them alive. There is no human being so low or so mean of birth, so humble of origin and occupation, whose life is not worth saving. But are we not just as valua-

ble? Are not the lives of the citizens of this Queen City of the State worthy of preservation? Don't you want to live in this beautiful country? Would you not like to live longer than the usual allotted span of life? If you are willing to pay for it, you can stay alive. If you skimp the money for health work you are going to die. It rests with the people of this country, with the people of Richmond, whether to live or to die. Members of the medical profession who are experts in fighting disease, experts in sanitation and engineering, are ready to show you how to live, and to make it possible that you should live.

We should submit to quarantine which should be so enforced that no epidemic of contagious disease could ever gain any headway outside of its own initial nidus, so that thus we may all be protected from its influence. But this costs money. You are building roads, and I am glad you are spending millions and millions to build them, but a great many of those you are building lead to the cemetery. That is the kind of road we want to block as much as possible, and we can do it, but not without funds.

In New York State, which is the one I happen to think of just now, they have spent a hundred millions of dollars in broadening and deepening the old Erie Canal. I drove along its banks many a mile the past summer, and it did not look much bigger than before. What citizen of that great state will live one second longer by reason of that great expenditure? Not one. What citizen of that state will be more efficient because of better health by reason of that expenditure? Not one. Who are benefited by this ditch? The contractors, and nobody else. As far as any benefit to the State of New York is concerned in the way of lengthening life and increasing human happiness and human efficiency, and those are the only things worth living for as far as life in this world is concerned, they might just as well drop the money into the Hudson River. With a hundred millions of dollars, poor sanitarian as I am, I could have eliminated and exterminated the great white plague from the State of New York. I could have built a wall in the Adirondacks and put every person in the State of New York suffering from tuberculosis in that enclosure and kept him there on good food, with outdoor life and sanitary conditions, so that he would eventually be restored to health. I could have eliminated every tuberculous cow from the State of New York, and the Lord knows how many there are there. It is a scandal to think of it. I could have slaughtered every one of them and paid the owner the full value for his animal, and could have protected the children in this country against this terrible disease. Seven per cent of all cases of tuberculosis in children are traced directly to tuberculous milk. I could have stamped out the disease for a hundred millions of dollars, and yet were I to go to Albany, and ask for one hundred million dollars to eradicate tuberculosis from the bovine and human victims in the State of New York, what would I get? The merry ha! ha! and nothing more. But we do pour out money freely for things that are beautiful, to be sure, but they are so little useful as compared with human life that they sink into insignificance. Why are we so inexcusably indifferent when it comes to protecting our own lives? That is a question for each one of you to answer. But sometimes I think people do not want to live! At least they do not act as though they did. They say they want to live, but it is no more than an academic expression. Why should we die before our time? Why should we fall by the wayside in infancy and childhood? There is no reason for it. All of the diseases which are contagious and epidemic may be eliminated almost completely. You send a child to the public school to learn? No. A mother said to me the other day: "Louise is 8 years old; I will send her to the public school." I said in an earnest way: "Do not send her for another year; let her live her happy girl life." The mother replied: "No, I am going to send her right away." I said to her: "What is your particular hurry?" The mother replied:

"I want her to have whooping cough and measles just as soon as possible." (Laughter.) And she sent her child to the public school; not to learn! No! But to get the whooping cough and measles. I said to her: "My dear madam, do you know what a dreadful and deadly disease measles is? Measles kills hundreds where smallpox kills one. Every one knows how to guard against smallpox." I will confess that I would not like to have it myself; but it is a harmless disease. Last year in my own State of Indiana there were 700 cases and not a single death. Can you say that of measles? Oh, no. Quite a number of the poor little infants whose mothers send them to the public school to get measles die, and another large per cent, who get well are invalids for life by reason of this terrible disease. There is no more need for a child in this country to have measles than that I should jump over the Washington monument. Not a bit. Are you protecting the public school against infectious and contagious diseases? No. It costs money to hire a medical inspector—may be a thousand dollars or fifteen hundred dollars to save the lives of 5,000 children. They say it is too much to spend for that purpose. That much money will put in a curb along the street; we will put down a new asphalt pavement or we will increase the salary of the chief of police. (Laughter.) Let the child take its chances. Are you going to safeguard the public schools in order to save these precious investments you have made that they may not lose their lives in trying to improve their minds! I have two boys, one two and a half years old and the other eight [illegible] I would rather [illegible] up ignorant of the alphabet, without being able to do a sum in arithmetic as we used to say, than to learn, or try to learn, those barba[illegible] invented by the devil! (Laughter.) I would rather they should never read nor write than [illegible] in the public schools. (Applause.) Before they enter the public school I do hope we will so appreciate this investment we have made in humanity that we will safeguard the public school from the dreadful menaces to life and health which now infest it. I hope the day will come when the mother can say to her child, Go to the public school, I know you will be safe from all these threatening diseases because an inspector is standing at the door, not once a year, but two or three times a day, looking at every child that enters and excluding every one which has any vestige of any infectious or contagious disease. And then when he gets past this inspector, the dental inspector will look into his mouth to see if he has any decayed teeth. Children will swap chewing gum, and if they have any decayed teeth they cannot enter further there until those teeth are removed or cared for. Furthermore, the mental pabulum they receive will be as carefully censored and inspected, and children will go out of the schools strong physically, mentally and morally, as they should when the schools are properly inspected along these lines. But how shall we hasten this day? I do not know of any other way than to go about it. I do not know of any other way than to become interested in the matter. I do not know of any other way except to spread the knowledge of ill health from decayed teeth and from disease which we are so slow to realize. But it is a terrible lesson that nature is teaching us. Oh, the broken homes, the broken hearts, the newly-made little graves, object lessons which we do not heed! Nature is teaching us the barbarity, the inhumanity, the awful sinfulness of permitting such a state of affairs to exist. And so we must begin right with the child, the newborn infant, even before he is born, to save humanity. Some day we will see to it that only healthy children are born in this country. How much better that is than to punish them when they are born for the sins of their fathers. I know in saying this that I am quoting from the Scriptures. I cannot help but believe that the sins of the fathers are visited [illegible] the children to the third and fourth gen-

eration, and yet that is not quite true enough. If ever I am called upon to rewrite the Bible, that text will be slightly changed, and it will read this way: "The sins of the fathers are visited upon the children forever and forever!" There is no escape! And so some day we will begin with the parents and say that "only healthy babies shall be born in this world," and thus conserve humanity at the source. We will never, I fear, take this view of the matter until we realize the amount of money that is invested in humanity. Who is trying to promote the health service of this country today more than Dr. Blue? No one, but he is greatly handicapped by plutocrats who will vote $12,000,000 for a battleship where they would only vote $700,000 a year to save life. Politics is killing men. How generous are our legislatures, how profligate of money, but not to save life! We have an object lesson we shall not soon forget in this bloody war now devastating Europe. I expect to preserve my neutrality. I am perfectly neutral when I say I hope one of the parties in this war will succeed. What is the history of this war? Going back forty years and more you see expended for war purposes by the nations of Europe millions and billions of dollars. Three hundred millions of dollars a year for each of the great nations would hardly cover it for a period of forty years. For what? They say to preserve peace! But peace must be precious, indeed, when it costs so much to preserve it. They are spending five billions of dollars a year to keep peace from going to pieces. You see what they are trying to do and what they have done. They were preparing for the great Armageddon, and T. R. not there to take his part in it! (Laughter and applause.) Five thousand men are killed and wounded every day, and have been for three months. Tomorow it may be 10,000. Today twelve millions of dollars are expended on the troops in the field and on the ammunition that is burnt. A safe estimate of this expenditure is from ten to fifteen million dollars a day. If we could have that money to serve the poor people of that distracted continent it would be a mighty good thing. Look at the mothers and infants starving today, brought to the edge of the grave by the red dragon of war. All over that great country every energy of humanity is bent to one purpose, to kill and to slay. If we could have such enthusiasm displayed for the saving of life, how by leaps and bounds would the propaganda for the public health go forward. We are not enthusiastic over life. Ten thousand men will run out to see a murder on the street where a hundred will come to hear me lecture. We have a lust for destruction, and I wish we could exorcise it in some way. I wish we could make humanity humane once more and not barbaric. I wish this beast of lust to slaughter and conquer could be throttled and destroyed in the human heart, and that the great energies of mankind could turn their warring energies to the pursuits of peace, and teach our men and women how to live instead of how to die. Oh, what a glorious period it would be for the propaganda of the public health if such a spirit as this could pervade humanity. So it seems opportune when all the world is wild with the rage of war, with all the energies of mankind bent upon destruction; when all the progress of science has been commandeered to kill and throttle, to stab and destroy; when all of the civilization of which we boast has been sunk in the slime of the ditch and in the gory dirt of the battlefield; when mankind seems to have broken away from all allegiance to Christianity and virtue, and plunged into the very center of hell, to contrast these two ideas; that of the *salvation* of humanity, to live in peace and quiet and efficiency; and that of the *slaughter* of humanity, as it is going on today. And so I call your attention to this contrast that I may interest you still more in this great problem of conserving the investments which we have made in humanity.

Who in this country are doing the most in favor of human conservation? The members of the medical profession. You speak some

times of the charges of the doctor. What profession is so altruistic as the profession of medicine. What other profession in this world is doing all it can to put itself out of business? There is not a physician who is worthy of the name who is not working hard to prevent disease, to keep humanity well, to eliminate contagion and infection. And if thereby he may lose his own business he is perfectly willing to do it. Who is it that is doing most, aside from the medical profession, to save the lives of the people and to protect their health in this country? Shall I tell you. It will be only another argument to show I have spoken the truth when I say the way to a man's heart is through his pocketbook. Who is it? The life insurance companies in this country have organized a Life Extension Institute. I am a member of it. And what is its purpose? To lengthen human life. Are they in it for the good of humanity, do you suppose? Are they doing it for philanthropy? Not much. The longer you live, the more they get out of you. They never want you to die. The only way you can beat a life insurance company is to commit suicide as soon as the policy is issued.

We cannot better humanity by applying rules and regulations. The law of humanity is life. There is only one law, the conservation of humanity. We have too many laws now. Nobody wants to enforce them, except the health officers here. I have had some experience and I know what I am talking about. The health laws of this country are often construed to protect mercenary interests, and these interests control their execution. We may have too many laws already. In this connection I am reminded of the story of the man in Kansas. A man in Kansas boasted of the regulations in his city and of the laws for the welfare of humanity. Some one bet him five dollars that he could not live a day in Kansas without violating some law. In order to win [illegible] man suddenly came in and arrested him for sleeping in a bed that did not have sheets nine feet long. (Laughter.)

Yes, life insurance companies in this country are doing splendid work to lengthen human life. Is it a vision of the future which appears before me, or is it the hallucination of a disordered brain? No, it is not. We can lengthen human life. We can make it freer of disease and suffering. We can make it more efficient. We can make human life more happy and more valuable as an asset by the work which the medical profession and its allies are trying to do, by the very work which this Association is called upon to consider in the increasing of medical efficiency. But how can you conserve human health? How can you keep people well? Those are the great questions which this convention is called upon to decide. And so I believe it is possible to lengthen human life. I have said that the length of life today is forty-four years in this country. Am I extravagant when I say that the time is coming when it will be double that? I am not so extravagant as you might think from my point of view. I have a mighty slim chance to be benefited very much myself, as I am well on the way to eighty-eight (laughter), and I am expecting to live that long. I cannot afford to die until my boys are through college. Yes, forty-four years, and if you will save infants that die unnecessarily you would add six years to the average life of man. That makes a fifty-year limit. If you save the young who fall by the wayside from tuberculosis and diphtheria you will accomplish a great deal, for these two great diseases love youth and beauty. They have preferences. They do not attack old and wrinkled people; they want the young and beautiful. If you can ward these two diseases off you add ten years to human life. It is not hard to count up to eighty-eight. I would rather live to be eighty-eight and die of an old man's disease than die at twenty-two from typhoid fever, diphtheria or tuberculosis. It may be a disgrace to have an old man's disease and die of

it, but I would rather have that disgrace than to die at the age of twenty-two of typhoid or tuberculosis.

The picture I have portrayed to you is not a prophetic vision of mine. No. Four thousand years ago and more the great prophet of Israel, David, the King of the Jews, looking into the dim future, saw the day of which I am speaking, whose dawn is now just opening in the East. In that remarkable prophecy of his, looking forward to the day of complete prophylaxis, when all unnecessary diseases would be abolished; that happy day when all avoidable disease would have disappeared, he saw with a clear vision when he said: "Thou shalt not be afraid for the terror by night; nor for the arrow that flieth by day; nor for the pestilence that walketh in darkness; nor for the destruction that wasteth at noon day." "Thou shalt not fear," said David, the great king and poet of Israel. And so I look forward to that day when the terror of the night will not be threatening, when pestilence will no longer walk in darkness, when destruction will no longer waste at noonday; and when that prophecy is fulfilled, and its fulfillment is near at hand, we will begin to realize, after all, the horrible lessons which we have failed to heed, the worth of humanity. It is not the tariff, nor the income tax that concerns us, but it is the welfare of the human unit, and the day is coming when the political party which writes into its platform the conservation of the public health will write it for the purpose of getting your vote, and then of protecting you in your life. That has never been done yet. The doctrine of public health has been preached by all parties, but they have failed to perform. I believe we will arouse this interest in humanity, and arouse interest in the fact that every human being is worth money; that we cannot throw it away and waste it as we are doing. And then will come the love of humanity, the love for the welfare of humanity which is far away and above all mercenary motives, and thus crown this work for the protection of human life and human health, and to that end I call upon every physician in this assembly, every citizen of this city, every person who has at heart the welfare of humanity, to lend his aid to the great cause of preventing disease, of protecting public health, and of increasing the efficiency and happiness of humanity. (Loud and prolonged applause.)

AUTHORS' ABSTRACTS—Medicine.

(Continued from page 365.)

Medical Side of Exophthalmic Goitre. By R. W. Baird, Dallas, Texas. Texas State Journal of Medicine, February, 1915, pp. 412-415.

Early diagnosis in exopthalmic goitre is of great importance, and the onset is varied. As a rule, the enlargement of the thyroid gland, with ocular, cardiac, vaso-motor or nervous symptoms will point to the diagnosis of hyperthyroidism comparatively early. Yet we must not forget that loss of weight with persistent tachycardia means hyperthyroidism; add to this a fine, regular tremor of hands and feet, and the picture is almost complete. Then add some ocular evidence, as widened slit and infrequency of winking, and some vaso-motor disturbance, as localized suffusion of the neck and face, and the size of the patient's thyroid gland may be disregarded altogether.

Goitre is sometimes substernal and detected by (1) dull area of percussion; (2) skiagraph; (3) evidences of substernal pressure.

The treatment of exopthalmic goitre is both medical and surgical. Mild cases are amenable to medical care alone, but most cases are at some time distinctly surgical. All cases before operation must be carefully prepared by medical attention. Also after operation these cases require, for a period of time, the same careful guidance. Often after a successful operation patients go all to pieces owing to lack of medical supervision after leaving the hospital.

It is very important that the surgeon in these cases be fitted by nature for his task. He must be gentle, sympathetic, and tactful.

Rest, mental, nervous, and physical, is the essential of medical treatment. Along with this, systematic care.

Whey in Infant-Feeding. By A. W. Bosworth, Geneva, N. Y.; H. I. Bowditch and B. H. Ragle, Boston, Mass. American Journal of Diseases of Children, February, 1915.

In the experiment reported the child was fed an abundance of fat, sugar and protein, the only variable being the whey constituents which were under observation. The authors were able to reduce the rate of growth, or to inhibit growth, depending upon the amount of whey fed. The inhibition of growth, even when prolonged for several days, resulted in no untoward manifestations of any kind other than a loss in body weight. The results secured confirm the work of Osborne and Mendel* upon rats. The investigation also seems to support the theory the elimination of that creatin is in some way involved in growth.

*Publication No. 156 of the Carnegie Institute.

MEDICINE

(INTERNAL DISEASES, PEDIATRICS, NEUROLOGY, DIAGNOSTIC METHODS, ETC.)

NEUROSES IN THEIR RELATION TO CHRONIC INFECTIONS.

By J. Allison Hodges, M.D.,
Richmond, Va.

Neuroses are interesting to study, even if they are difficult to treat. The boundary line between these so-called functional diseases and organic diseases is an entirely imaginary one, for disease without some underlying physical basis is inconceivable.

The physical changes may be so slight, however, that the lesions are incapable of demonstration, and yet the molecular or bio-chemical alterations are so constant that, as clinicians, we must recognize that the neuroses are true diseases, and as true to type as smallpox or cancer.

The three chief neuroses are neurasthenia, psychasthenia and hysteria, and while the first is of "exogenous" origin, the two latter are essentially "endogenous" in character. While, also, each has fairly distinctive characteristics, still they are often combined with each other, or may co-exist with gross organic disease.

Convenience and custom have sanctioned the designation of certain types of disease of the nervous system by the antithetical terms, "organic disease" and "functional disease," and while these may define the extreme types, yet they do not adequately nor satisfactorily cover the transitional states of disease between them.

Between these two extremes there is a wide gap, and ever-changeable gradation, and the necessity for a proper distinction constitutes a general diagnostic problem of the highest importance, for while organic disease is concerned with processes that involve actual destruction or alteration of tissue with limited power of repair, functional disease consists of disorders of function and nutrition with practically unlimited possibilities of recovery.

Likewise, in this latter class, also, there are many variations, ranging from those in which the nutritional changes may be negligible to those in which they may be profound, even sometimes reaching the point where slight alterations in structure may make their appearance.

In addition to this disordered function that may be depedent upon a beginning alteration in the nutrition of nerve elements there is also at times other modifying factors and influences, such as heredity, environment, personal temperament, etc., that complicate the rational solution and future treatment of the case in question.

So varied, consequently, have been the different theories regarding these border-line functional cases that many terms have been used to designate the morbid processes, some observers actually regarding them as a disease entity per se, and others denominating them as psycho—or neuro—or both, according to the inherent psycho—or neuropathic disposition of the patient.

While strictly speaking, a functional disease is a derangement of function without a pre-existing alteration in nutrition, yet the cases that actually belong to this class are probably very few, and experience teaches, especially with improved chemical and microscopical technic, that this category is becoming more and more restricted, and yet there still remains a goodly company which until more exact scientific knowledge shall enlighten us, must be designated, for the want of a better phraseology, neuroses of the nervous system.

*Read in Section on Medicine Southern Medical Association, Eighth Annual Meeting, Richmond Va., November 9-12, 1914.

This nomenclature, however, is but an apology for our ignorance, and yet it excites our scientific curiosity to inquire into the functional nature of a disorder, especially when it has no apparent organic cause, and it is for this reason that I have invited your attention to this class of cases in their relation to chronic infections, in order that we may determine if some of what are now considered to be entirely functional cases, may not be caused by, or dependent upon, existing systemic infections.

The pendulum of scientific thought and speculation swings sometimes too far and because numbers of organic diseases have been overlooked, and neurasthenia, like neuralgia, influenza, malaria and rheumatism, has been made the convenient dumping ground for careless diagnosticians, many practitioners have been led to believe that all the so-called functional diseases are really based on organic disease.

It is true, and must be admitted, that there is a considerable number of morbid conditions, however, that are apparently functional, and just as a preponderance of symptoms has appeared to be psychical or physical, they have been designated cases of psychasthenia, or cases of neurasthenia, but this does not adequately describe their manifestations, nor explain their etiology. Consequently, the problem of the neuroses is a complicated one, and involves not only existing disease expressions, but also the personal abnormal psychology of the individual patient. How much of the one or the other originates in the mind or body in some of these cases appears to be incapable of determination, for not even the most learned psychologists know the exact relationship of mind and body.

Practically speaking, however, neuroses are disorders of the nervous system which are functional in character, and have either a psychogenic or somatogenic basis, according to the inherent temperament and environment of the individual affected. In the study of them the interesting point for determination is the relative preponderance, as it were, of the innate psychical, or acquired physical, element in the case under consideration.

This is no easy task, and statistics are perfectly valueless upon this question because everything depends upon the experience and the knowledge of the person making the diagnosis.

Time was, and not more than a decade or two ago, when it was the fashion to describe every neurosis as a reflex from some non-nervous organ, and if disease, either primary or coincident, for example, or any of the thoracic abdominal or pelvic viscera was found, the mental symptoms were supposed to be thoroughly explained, for the medical world has no heredity of training in diagnosing nervous diseases.

Indeed, if these abnormal nervous conditions are to be thoroughly understood, it must be admitted that in the great majority there is an inherent personal psychopathic element that must be considered and properly valued.

These psychopathic elements and conditions are legion, and may occur singly, forming an imitation of morbid entities, such as psychasthenia, neurasthenia, hysteria, hystero-neurasthenia, hypochondria and melancholia in their milder forms, and many conditions of nervous unbalance and degeneracy, as well as disturbing elements in the symptomatology of many surgical and medical diseases, and, in fact, in human suffering under all its forms and in all its degrees.

The psychoneurotic, properly speaking, has no physical suffering. It is always psychic, even when it results from a traumatism or an anatomical lesion, and he lacks also the power of control and normal resistance.

The patient himself is aware of this, but oftentimes the physician, impressed with his role as physician to the body alone, is unmindful of these mental changes which are often very serious, and which much more frequently than organic troubles destroy the happiness of individuals and of families.

Instead of interesting himself in the men-

tal life of his patient, the physician is frequently found hunting among the different organs of the body for the cause of all these psychic and nervous troubles, overlooking the fact that the nervous manifestations may be, and often are pre-eminently psychic in character.

The brain interests the average physician only when there is hyperaemia or anemia, hemorrhage or thrombosis, meningitis or tumors, but when it is affected only in its functions, the unfortunate patient is too readily transferred to the alienist for diagnosis and treatment.

In addition to these neuroses of purely psychic origin there is undoubtedly a small group of somatogenic neuroses that bears important relations to chronic infections, but in a careful examination of a very large number of suspected cases, extending over some years of private and referred practice, it has not been my fortune to positively incriminate special infections as directly causative of the psychopathic conditions in as many cases as I expected. This has been the more astonishing to me because I have been ever ready to accept such a solution.

The uterus and its adnexa has had the honor of being the most frequently under suspicion, particularly when some form of hysterical nervousness was under consideration, but I do not think that lesions in this locality are any more prone to act reflexly than lesions of other non-nervous organs, except so far as they act psychically, because every woman is only too prone to believe that every uneasy feeling is due to a uterine or pelvic disorder, and if this opinion is confirmed by some attending physician, it but adds a certain satisfaction to her increasing mental torture.

Likewise, there is no necessary relation between pelvic disease and hysteria, or pelvic disease and neurasthenia, even when the two affections coexist in the same case, and while occasionally surgical intervention may be demanded for other reasons, still it cannot be expected that it will be curative in a rational way of the existing nervous state.

It was an old delusion that removal of the ovaries would cure epilepsy in the female, but there is not a case upon record in which epilepsy has been cured by such an operation, or by any operation upon the female pelvic organs.

Diseases of the male urethra, seminal vesicles, etc., have been supposed to play as large a part through chronic infections in the causation of psychoneuroses as the pelvic lesions and infections of the female, but the one belief seems as much due to defective observation as the other.

The absorption of toxins from the blood in some of the exhausting diseases of the internal organs is undoubtedly an infective cause at times of the psychoneuroses, but the concomitant anemia is quite as often an effect as a cause in such cases.

The disturbances of gastro-intestinal function due to absorption of toxic substances, in conjunction with dilatation of the stomach, or ptosis of some of the abdominal viscera, is, in my experience, an undeniable cause of vascular infection and consequent psychoneurotic manifestations in many clinical cases.

The supposed infection from arthritic diseases has never proved to be the cause of neuroses in a large number of such cases that have come under my observation.

Chronic infection, however, as a result of pyorrhea alveolaris, has appeared to be the source of a considerable number of neuroses that have been studied in the past two years, when more attention has been paid this infectious condition, but sufficient time has not yet elapsed to be assured that the primary infection has been cured, or that there will be no recurrences.

Chronic infections of the gall bladder tract have been associated with a small number of coincident neuroses that have been treated, but the resultant effects have not been sufficiently conclusive to warrant an opinion as to whether

their association was accidental or otherwise. The psycho-neuroses, coincident or resultant from syphilis, have not been mentioned likewise. Sufficient cases have been studied, however, to prove, first, that the large majority of neuroses are of purely psychic origin; second, that a small percentage is due to chronic infections; third, that the treatment, to be efficient, must vary with the cause, but this will be considered in detail at another time.

DISCUSSION.

Dr. F. H. Clark, Lexington, Ky.: A valuable paper very often consists not so much in the direct thought that is brought out in it as in the discussion to which it leads, and the ideas and thoughts that grow out of it. The trouble about this paper is that so many things grow out of it, it is hard in the brief time allotted for discussion to discuss many of them. I want to say this, however, that no more valuable paper has been read before this section during this meeting of the association than the one to which we have just listened. I think it was Joseph Cook who said that every discussion should be prefaced with a series of definitions, like the dramatis personae, or like the cast of characters in a play. For instance, Dr. Hodges' definitions, many of them which we term neuroses under the modern nomenclature, belong not strictly to pure neuroses, but these are largely academic, and he is to be left in doubt as to what is meant by this character of cases. If we have an infectious disease, like neuritis, for instance, with paralysis and the ordinary physical conditions that go along with it, that is a pure neurosis. Going to the other extreme he described certain mental conditions, palsy and so on, which belong to the pure psychoses. Between these two extremes lie the great bulk of the cases which Dr. Hodges has referred to, and more especially the psychoneuroses, neurasthenia, psychasthenia, hysteria, and so on. Psychologically there is a wide distinction between the two. There are one or two points that occur to me in this connection which it might be well to discuss.

In the first place, the fact that a neurosis or psychosis or psychoneurosis follows infection or disease does not imply that the disease caused it. Perhaps I can do no better than to illustrate this by a recent case of a young woman in bed with paralysis. A careful physical examination showed no reason for it. She had a marked mitral insufficiency, but her nutrition was good. The family physician, a very sensible practitioner, recognized all this. I saw this patient and I could see no reason why she could not walk, considering her physical condition. It was plainly a case of hysterical paralysis. The patient was in the country and was being driven home by her younger brother, who threw light on the cause of the condition. This young fellow said to me, "Do you think you can cure sister?" I replied that depends upon whether we are able to get her to walk. The young man told me that a little over a year ago the patient was examined by Dr. So-and-so, who told her that she would never get any better; that after a few months she would be bed-ridden and would never get out of bed. There was the cause of her condition, and not the rheumatism or the endocarditis behind it. That is is an illustration. All are familiar with such cases and all of us have worked miracles seemingly in this class of cases. When a psychoneurosis follows infection or disease it does not necessarily imply that the disease is directly the cause of it. If we stop to recognize cases of disease, particularly the group commonly classed under neurasthenia and psychasthenia, we will see at once what an admirable background or soil there is for the development of these disturbed psychic conditions. As Dr. Hodges has well said, there must be an actual change in the brain cells as if there was inflammation or disturbance of circulation here as well as anywhere else. There must be a condition brought about which produces these changes in the brain cells or in the nerve cells themselves.

Dr. Wm. S. Gordon, Richmond, Va.: I am not a neurologist, but those of us who are internists are interested in the subject of Dr. Hodges' paper, and in the points he has brought out. A woman with a uterine displacement may have marked nervous symptoms. After labor there may be a decided chill or other nervous manifestations. But the patient may have infected tubes. It behooves us, therefore, to be on the lookout for certain neuroses that may result from latent infection. The more these cases are closely studied the more we shall discover somewhere in the body a focus of previously unrecognized infection. So in chronic cases. An attack of the grip may leave a pus-pocket in one of the sinuses, or pyorrhoea alveolaris may be causing pus absorption. A chronic infective endocarditis can produce a good deal of nervous disturbance, yet there are many cases of chronic infection in which the nervous system is not much involved. It seems to me that the main lesson which we should learn is to examine very carefully all cases of acute infection and endeavor to prevent their becoming chronic.

Dr. Tom A. Williams, Washington, D. C.: In the first place, I want to say how much pleased we should all be with the attitude taken by Dr. Hodges in his paper. There is one difficulty and that is the definition of neurosis. All the speakers have by implication made statements which would lead us to classify even typhoid fever among the neuroses. Neurological terms in connection with typhoid fever are prominent, and did we not know there was a cause, we might call it a neurosis. Neurosis is a term used as a waste-basket to put things in about which we do not know. The term should be dropped entirely and we should substitute for it psychosis, meaning what Dr. Hodges spoke of as psychogenetic disturbances. Psychogenetic disturbances are said to be due to physical charges. They are not. They are purely terminations of the order of reactions in a being in whom they manifest themselves. Take the cases of human beings, men of the same race, brothers, one brought up in Virginia and another brought up in Boston. Each will have entirely different reactions and neither of them is abnormal. They have acquired that

way of reacting to stimuli by environment and training, and not because there is any actual change in the structure of the nervous system, but there are certain predispositions towards activity which can best be expressed physically, but which are not dependent upon real innate structural bases. The fact that many so-called neuroses occur after infections or injuries or physical disturbances is due to the fact that that patient has already in himself a mental disposition to the kind of thought which we call a neurosis. When we detect, for instance, a man with general paresis who reacts in the same grandiose fashion, it is because the nature of the reaction is being overclouded by his educational attainments, which makes him behave in this improper way. His cortical control is diminished by disease. He acts in a grandiose fashion. If a man engaged in business gets arterio-sclerosis of the cerebrum, what happens? He loses the power of decision. Why? Because of the elaborate processes necessary for decision. That is not a neurosis at all. These conditions are merely expressions of the physical condition of the nervous system at the time, made possible by the dispositions of the individual gained by his training in the first place.

Again, pain in the epigastrium or uterine disease is not a neurosis. It is a referred pain.

As to a heart lesion causing neuroses, we all know how very closely associated with a general failing tone is the integrity of the cardiac force. We know of the anxiety and of the feeling of impending death when the cardiac muscle suddenly ceases to perform its work properly. Toxins often have that effect on the heart.

Dr. J. Allison Hodges, Richmond, Va. (closing the discussion): My purpose in bringing this subject before the meeting was to stimulate the younger members of the profession to greater faithfulness, if possible, and accuracy in diagnosis. It was my wish to be suggestive only, and to put all of us, as it were, under suspicion when we see such cases in our offices and be ready to value these cases properly, and remember that when it comes to the treatment, we are to consider not only the disease, but the patient plus his individual disease. I wish to say this, that a correct and proper definition of neurosis is an academic question which should be discussed among ourselves here. It is almost impossible of definition, and yet I believe that there is such a condition existent in many cases, but my object was to suggest that we are not to make it the dromedary to carry the burdens of our unscientific diagnoses. I wish to say to you that this whole question is of the greatest importance, [illegible] that if infections are the source of neuroses, either of psychogenetic or somatogenetic origin, [illegible] acute and might have been throttled and these neuroses thus prevented. Furthermore, I wish to [illegible] of great importance for us when we have a case, [illegible] heredity or environment or otherwise, and yet three months later I found that there was infection of the frontal sinus which unquestionably was the point in that case that I should have determined earlier. It is for this reason that I have called attention to this subject, in order, if possible, that we may be more accurate and more scientific, and that the future shall limit the neuroses even more than has been done in the past, because of accurate observation and scientific treatment.

DUODENAL ALIMENTATION.*

By Camp Stanley, M.D.,
Washington, D. C.

Perhaps the greatest field for duodenal feeding is in those cases of gastric ulcer which have not yielded to medicinal treatment and where the indications for surgical intervention are not clearly defined. The direct aim of this method is to relieve the stomach of all work, and to remove the mechanical irritation to a sensitive and disorganized mucous membrane, which under ordinary circumstances is the case when the patient is put on an ulcer diet and food allowed to pass through the stomach. It also obviates the stimulation to gastric secretion which in a large percentage of cases has an excess of HCL, the food, in the tube cases, passing directly to the duodenum, into alkaline reaction. The simplicity in passing the tube into the stomach which in turn passes it to the duodenum without any further effort on the part of the physician, makes it a method which commends itself for its simplicity, comfort to the patient after the first twenty-four hours, and accomplishing absolute rest for the stomach, maintaining the body weight, and relieving the gastric distress. We often see in these cases a definite and particular aversion to food. With the tube in place we have the patients at all times ready for nourishment independent of their personal wishes, and frequently I have seen them receiving

*Read in Section on Medicine, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

nourishment while asleep. There are two methods of carrying out this treatment. In one the patient feeds himself with the aid of a small glass syringe. The second is a method which depends upon gravity and is a modification of the Murphy drop method. The former method has many admirable points, chief among which is, that in those cases where the symptoms are of a mild character with only a very faint stain on the thread and no occult blood in the feces, in these cases where the complete rest of the patient is not so essential and it is unnecessary to put the patient in bed, the treatment can be carried out while the patient is up and around the house; while in the latter method, which is more applicable to the cases of a severe type, where the symptoms are more pronounced, and it is essential to have complete rest, the drop method is by far the most satisfactory one in my opinion, and can be carried on with little inconvenience. Of course, it is better to have a nurse attending to the details, although a member of the family can be instructed and carry on the treatment very nicely. The only difficulty that I have ever experienced was in keeping the feeding solution at the proper temperature, and this can be overcome by surrounding the jar with hot water bags.

The technique of introducing the tube is very simple. The patient is in a sitting position and is told to take a swallow or two of warm water. The tip of the tube is then given with another large swallow of water and introduced very slowly, to prevent it from doubling upon itself. When the proper mark is reached on the tube we know that it is in its proper place, and it usually requires two or three hours to pass through the pylorus. Its presence in the duodenum is readily determined by aspirating and recovering a small amount of liquid, which, if from the stomach, is acid in reaction, and alkaline if in the duodenum. There are some cases, however, which have a marked pylorospasm, and there is a consequent delay in the passing of the tube to the duodenum. The other points in recognizing the position of the tube are simply determined. Thus, a swallow or two of milk will promptly color the aspirated fluid if from the stomach, whereas the secretion which is recovered from the duodenum is, in the first place, difficult to obtain because it is usually empty, and when it does appear in small amount it gives the alkaline reaction. There are two other ways of determining the location of the tube: by introducing air it is felt in the stomach, whereas if it is in the duodenum it causes no discomfort. Of course, the most positive way of all is the X-ray, but entirely unnecessary as the simpler ways answer very well. In those cases where the tube is delayed in reaching the duodenum the patient can be given liquid food by mouth every two hours, and usually at the end of three hours duodenal contents can be aspirated.

The procedure after the tube is in place is not complicated, and the success of the treatment is now dependent upon careful attention to details, which may seem trivial, but in reality are of the utmost importance.

1. The nourishment must be maintained at body temperature.

2. The solution must be strained through muslin to avoid the stoppage of the tube at the bulb end. If this precaution is taken it may obviate the necessity of removing the tube, causing mental and physical discomfort to the patient. In only two of my cases has it been necessary to remove the tube, and when the tip was taken off of the button I found a small mass of threads, and under the microscope they proved to be cotton threads. I learned later that the nurse had used ordinary cut gauze to strain the solution.

3. The third point is extremely important. Clean the tube after each feeding by passing through it a small amount of warm water, followed by a syringe full of air, so that the tube may be kept empty. Attention must be paid to the patient's mouth and a good mouth wash used often.

The actual feeding is carried on as follows

on a basis of maintaining the body weight by giving the proper number of calories during the eight feedings in the twenty-four hours. As a fewer number of calories are required to maintain the nitrogen balance when the body is at complete rest, the estimated number of calories (2,900 or 3,000) is in excess of the required number, and is a substantial aid in the building up process. The patient is fed the first day every two hours, a mixture of milk, milk sugar and one raw egg, commencing with small quantities, three ounces, and gradually working up to seven or eight ounces, the feedings commencing at seven a.m. and the last one at eight p.m. Occasionally when the solution is given too rapidly the patients complain of flatulency and abdominal distress. This can be obviated by lengthening the feeding time. I wish to again emphasize the importance of turning off the tube stop cock as soon as the feeding is completed and before the tube is disconnected from the feeding jar, to prevent a regurgitation of trypsinized milk, which is apt to clog the tube; and also to emphasize the importance of passing an ounce of warm water through the tube after each feeding. The class of cases best suited for this method of feeding are those in which there is a marked excess of acid, which is the greatest single factor that prevents an ulcer from healing. The method is not always a success, but if it does not accomplish the desired results, it is beyond all doubt a true surgical case and as such it is a better surgical risk for having undergone this treatment. In those cases where the thread shows the ulcer to be at the pylorus or within six or eight centimeters of it, there may be a very obstinate pylorospasm which prevents the passage of the tube to the duodenum. If such is the case it is indeed a very difficult one to handle, and perhaps makes it necessary to have a gastro-enterostomy done. It is because of the great danger of a developing malignancy on an old ulcer site that make the condition and its treatment one of the greatest importance. This method of giving rest to the upper digestive tract is not limited to the treatment of gastric ulcer and duodenum, but is found extremely useful in many other conditions in cases of hyperacidity where the acid content remains high over an extended time. Also in chronic liver affections, where it is desirable to relieve the liver of additional work, in persistent vomiting conditions, and in giving medicines which are apt to disturb the stomach, such as thymol and male fern. That this method of treatment is always a success would be rather an extravagant statement, and is well exemplified in the following case, which at the outset gave hopes of excellent results:

Mr. D. W., age 50, referred by Dr. J., consulted me on April 26, 1914, complaining of the following symptoms: (a) Intense gnawing sensation in epigastrium, more pronounced two or three hours after meals, and relieved by eating. (b) Pyrosis. (c) Eructating gas. (d) Dull pain at times in epigastrium. This man was 50 years of age and had had digestive disturbances off and on for ten years. Gastric analysis showed free hcl. 20 and total acidity 36, with no occult blood. Three thread tests were negative. Feces showed poor fragmentation, undigested food and no occult blood. Examination of abdomen showed a palpable gall bladder and slight tenderness on deep pressure over pylorus. Splashing sound over upper two-thirds of epigastrium. No other points of tenderness in abdomen. X-ray examination confirmed the diagnosis of gastric ulcer, and on April 29 he was put on duodenal feeding and at the end of nineteen days the tube was removed and the patient put on a modified diet and minute instructions as to his daily regime. His reports, which were sent in from time to time, were favorable up to the 15th of August, when he complained of nausea and vomiting. On the second of September I saw him again at my office and gastric examination showed free HCL a faint trace, while the total acidity was 2, a reduction of 34 in the latter and 18 in the former; positive reaction for occult blood in ten seconds. Examination of abdomen showed a thickened infiltration of the stomach wall, absence of splashing sound; feces showed a faint reaction for occult blood.

Now this was a case in which the findings

at examination strongly supported the diagnosis of ulcer. There were, however, a few points that suggested malignancy but they were very vague; such as his age, history of digestive disturbances, and rather low acid content, all of which might appear in the symptom complex of sub-acid catarrh. For two months after the removal of the tube he gained in weight and the blood improved. At the present time his white count is 16,000 and the polymorphonuclears 82 per cent. His vocation is that of an electrician.

Case No. 2.—Mr. C., 52 years old, National bank examiner. Digestive disturbances for three years. (a) Cramp like pain in epigastrium, pyrosis, eructating gas, and at times regurgitation of acid contents. Gastric analysis showed free HCL 56. Total acidity 70, faint trace of occult blood. Thread test positive stain 4 cm. from pylorus. Considerable six-hour residue. Splashing sound over entire epigastrium to one finger's breadth below navel. At times his attacks of pain were so severe and sudden that he fainted. On examination of the abdomen a well-defined sensitive area was found in the region of the pylorus and considerable pain was elicited on deep pressure. This case was put on duodenal feeding and the tube remained in place twenty-two days. Since then he has been completely relieved of his old symptoms and a gastric analysis, made three months after this treatment, showed free HCL 42 and total acidity 60.

The next case is of interest because it demonstrates very well the futility of treating a well defined case of ulcer medicinally when we have this means at our command.

Mr. R. L. W., motorman, 25 years old, came under my observation November 20, 1913, with the following symptoms: (a) Pain in epigastrium between meals and relieved by eating. (b) Vomiting on an average of three times a week. (c) Eructation of gas. (d) Constant nausea. (e) Constipation. Gastric analysis showed free HCL 72 and total acidity 90. No occult blood in the stomach contents. Blood was found in the stool on a meat free diet in eight seconds. No six-hour residue. I put him on the medicinal and dietetic treatment for four months with some improvement, and at times his stools were free of blood and he gained six pounds, but he was never entirely free of all of his symptoms, so on the 19th of March, 1914, he was put on duodenal feeding for eighteen days. There was a complete subsidence of all symptoms, and at the present time he is quite well.

On February 2, 1914, Mr. G. F. S. consulted me complaining of intense, burning, acid eructations, pyrosis, nausea and headaches. Gastric analysis showed free HCL 60 and total acidity 64; no occult blood. Examination of chest and abdomen negative, excepting the absence of splashing sound. Thread test at this time was negative. No occult blood in the feces. Blood examination normal. Urine normal excepting a large trace of indican. For three months he was on the medicinal and dietetic treatment. On April 11 the thread test showed a running stain near the pylorus, and on the 13th he was put on duodenal feeding. With the exception of a nervous chill he made an uneventful recovery, the tube being removed on the twentieth day. For some time after this he complained of a sensitive spot in the epigastrium. A second gastric analysis showed a return to normal of the total acidity and nearly normal percentage of free HCL. He has gained six pounds. In this case the nervous phenomenon were rather pronounced and made it a more difficult case to handle.

On April 23, Miss M. S. consulted me. Her early history was negative with the exception of being a delicate child and from time to time having mild digestive disturbances. During the previous year and a half she complained of being nauseated immediately after each meal, and would occasionally vomit. She had frequent severe headaches, pyrosis and eructations. There was a well-defined stain on the thread a few cm. from the pylorus; gastric analysis showed free HCL 80 and total acidity 98. No occult blood. Feces negative. Heart and lungs normal. Examination of abdomen: Well formed, splashing sound over upper two-thirds of epigastrium and to the left mammary line; some tenderness over the region of the pylorus on deep pressure; abdominal walls very much relaxed; haemoglobin 75 per cent, leucocytes 6,800, while the polymorphonuclear count was normal. Urine normal with the exception of a heavy trace of indican. I explained to her the extreme importance of undergoing treatment at once, as I expected to leave for Europe on the 30th of May and did not believe that she ought to go through the summer without treatment. On my return in September I found her in an extremely poor condition. She had spent two out of every seven days in bed and was now complaining of a dull

pain in the epigastrium. I started her at once upon duodenal feeding every two hours and a large, hot flaxseed poultice every two hours, with a cold abdominal bandage at night. At the time of writing this she is free of her symptoms and the tube is still in place.

I have brought to your attention the above cases chiefly because they represent the very best results of duodenal alimentation and have purposely omitted the reporting of cases which were of no special interest and made an uneventful recovery. There is one more case of which I will speak, because it presents rather an unusual development. After the introduction of the tube his salivary glands became exceedingly active, and in twelve hours over 55 cc. were secreted. Much of the mucus was ropy and thick, and caused a great deal of discomfort. The following twelve hours 500 cc. were secreted. Much of the mucus secretion has gradually diminished, but even at the present time it is excessive and requires the use of belladonna in quarter grain doses, given by tube. Of the simpler cases many more could be cited to illustrate efficacy of this method in the treatment of gastric and duodenal ulcers. Of the other conditions in which duodenal feeding is applicable perhaps its use in gastroptosis comes first, as in this condition we have usually a dilated stomach in addition the mal-position, and the stomach is quite as incapable of emptying itself, due to its impaired muscular tone and the increased angulation at the pylorus, and not sufficient food is allowed to pass the pylorus to properly nourish the patient. Consequently by the duodenal method of feeding the patient is properly nourished and the stomach is given a complete rest.

In closing I desire to speak of the relation of the thread test to duodenal feeding. It has been my practice until recently to give the thread after completing this treatment, and while it is extremely interesting and gratifying to get a negative thread, I do not believe it to be the best thing to do in all cases, as in a small percentage of cases I have discovered a faint stain, and in the eyes of the patient the treatment has been a failure, whereas in reality the treatment has been successful and their symptoms are entirely relieved. They commence at once to gain in weight. My disinclination to give the thread is because of the psychic effect on the patient, and the explanation for those cases in which a faint stain is found lies in the fact that there probably were multiple ulcers originally, of course confined to a very small area, while the ulcer that caused the symptoms is now healed; and that the second or late stain is probably due to some small, superficial ulcers, whose penetration has been slight and which is slowly healing and which later, as the patient's general condition improves, entirely heals. Otherwise we would have a recurrence of the old symptoms. Up to the present time I have not had a single case which has had a recurrence, consequently I am firm in my belief that this is the explanation. In January, 1911, it was my pleasure to take a duodenal feeding outfit to Prof. C. A. Ewald from Dr. Max Einhorn, the originator of this method, and to whom the greatest possible credit must be given. It is one of the great achievements in successfully treating gastric and duodenal ulcers, which heretofore have required many weeks in bed and with very little assurance of a successful outcome.

826 Connecticut Avenue.

DISCUSSION.

Dr. J. Clarence Johnson, Atlanta, Ga.: Dr. Stanley has presented to the Association the discussion of a method of feeding which I believe holds much promise for the profession in the future. The main objection to it is the absence of the spectacular, and because of this absence it is less appealing.

He has in a very practical way demonstrated the utility of the method; also, he has mentioned the simplicity of it. That is another objection to it, and yet on the other hand, when we realize the truth of the fact that simplicity in our methods means more than anything else it gives us greater confidence in it.

His paper was so suggestive that it is hard to select the proper things to say, although so much can be said. An effort of any kind which will give us further knowledge of the duodenum ought to be attractive, ought to be of interest, not only

to the physiologist, the pathologist, the internist and therapeutist, but should be of no mean account to the surgeon. The truth of the matter is that disorders of the appendix, the gall-bladder, the stomach and the rest of the tract have spoken with such loud voices and have manifested themselves with such evident objective symptoms, that this little quiet, unobtrusive organ has been neglected, and yet we only have to stop for a moment to consider that, when viewed in all its complications, it is really the melting pot of the alimentary canal. In no other part of the body is there such a complex action; in no other part of the body is the function so fundamental and so essential and so consistent and so dependable as in the duodenum, and in no other part of the body is there such a fine adjustment for chemical action as in the duodenum. There is no other organ in the body so tolerant as the duodenum. It has been less abused than the liver, it is true, in the minds of the profession.

I have great respect for the duodenum. I have more awe for it than I have respect, because I know less about it than any other part of the alimentary canal.

There is much to be considered in the use of duodenal feeding. I do not pretend to be fully familiar with all the work that has been done in the way of research or practical experimentation, but I have seen the method employed by others with excellent results. I have used it in my own work, and perhaps it is not irrelevant for me to say that I not only use it for feeding in the common acceptation of that term, but for systemic medication and for local application to the duodenum. The doctor evidently had that in mind when he read his paper, but did not have time to bring it up.

Dr. Philip S. Roy, Washington, D. C.: One of the most important things about duodenal feeding is its simplicity. Dr. Stanley is a skilled man in his line of work, but he tried to impress upon you that any physician in this room can use duodenal feeding. It is simplicity itself and the apparatus is not expensive, and therefore duodenal feeding can be used by every physician.

Dr. Stanley touched on diagnosis. In the last year or so there has been a great deal of discussion about finding occult blood in the feces. One speaker at the A. M. A. meeting at Atlantic City last June said he could find occult blood in the stools at all times. Another point in connection with diagnosis is the string test. Tie a shot to a string and let the patient swallow it. The next morning you pull it up and if you find the string blood-stained it is fair to assume you have an ulcer. Of course you may have cancer, or a juicy mucus membrane, but if you also have high acidity, which does not usually occur in malignant disease, you greatly strengthen your diagnosis of ulcer of the stomach or duodenum. I have on two occasions found, on feeding for duodenal (not gastric) ulcer, that the tube did not go down far enough to be below the ulcer, and therefore duodenal feeding was as painful as by the mouth.

Dr. Camp Stanley, Washington, D. C. (closing): In answering the question referring to the thread test, I wish to say that instead of attaching a BB shot, which is enclosed in a three-grain capsule, to the end of the thread, I now give it in all cases without the shot, thus doing away with the possibility of irritating the gastric mucosa, at the pylorus, a point which is the site of 70 per cent of all gastric ulcers. Without the shot it also minimizes the possibility of pylorospasm. The thread usually passes into the duodenum without difficulty, whereas frequently when the shot-thread is given, the shot lies in the stomach all night.

With reference to the efficacy of the occult blood reaction as confirmatory evidence of gastric or duodenal ulcer, I can but repeat what all laboratory men claim is the greatest single factor in getting a positive or negative reaction, and this is—careful technique—and it is exceedingly important. Where the technique is faulty naturally the results are inaccurate, but men doing gastro-intestinal work attach the greatest importance to finding occult blood when a patient is on a meat free diet and presents symptoms referable to the gastro-intestinal tract.

Dr. Johnson spoke of other conitions of the duodenum in which the method is applicable. For instance, in catarrhal duodenitis it can be used with excellent results. It is strongly indicated in that condition. Dr. Roy spoke of cases of duodenal ulcer in which he had a little abdominal distress after feeding. In my experience I have had a few cases in which abdominal discomfort followed the feedings, but in every instance this discomfort disappeared when the feeding solution was given slowly, and at the proper temperature. The tube should also be introduced four inches more into the duodenum. I now use a specially designed metal hot water bottle, which carries the rubber feeding tube through its center, and in this way I have overcome one of the greatest difficulties of this method of feeding, as now the solution is always at the proper temperature and the patient is entirely comfortable.

AUTHORS' ABSTRACTS.

Medicine.

Pyorrhea Dentalis and Alveolaris: Specific Cause and Treatment. By C. C. Bass and F. M. Johns, New Orleans, La. Journal of the American Medical Association, February 13, 1915, pp. 553-558.

Bass and Johns think that the prompt improvement coincident with the disappearance of the endamebas as a result of specific treatment, prove that they are the specific cause of the disease.

SUMMARY.

1. Pyorrhea dentalis and alveolaris is practically a universal disease, which leads to the loss of the teeth by a long suppurating process. All people have it sooner or later. It begins in early adult life or earlier.

2. The specific cause of the disease is endameba buccalis and possibly other species, which infect and destroy the peridental membrane. The pyor-

rhea results largely from the secondary infection.

3. The demonstrable endamebas can be destroyed by giving one-half grain of emetin hydrochlorid hypodermically for three to six successive days.

4. Apparently equal endamebacidal effect is produced by two or three Alcresta ipecac tablets (Lilly) taken by mouth three times a day for four to six successive days.

5. The lesions require variable lengths of time to heal, but many could not reasonably be expected to heal in less than several weeks or months.

6. The treatment must be repeated from time to time until the lesions all heal, on account of relapse, or probably reinfection of the lesions.

7. Injecting ipecac or emetin into the worst lesions ought to be of service and can be carried out by patients in many instances.

8. Rinsing the mouth thoroughly with a solution of fluid extract of ipecac is believed to protect, to some extent, against reinfection ,and actually cures the disease in its earliest stage in some instances.

The Significance of Casts in the Urine. By H. L. McNeil, Galveston, Texas. Texas Medical News, January, 1915, pp. 279-283.

Regarding their attitude toward the value of laboratory work in diagnosis, physicians can be divided into three classes: Pessimists, optimists, and normal. The optimists rely too much upon the laboratory, either through lack of experience in laboratory work or from the fact that they specialize in this field. The pessimists are usually disappointed optimists. The normal, average man has usually passed through both of these stages.

The attitude of the profession toward the finding of casts is illustrated by the above. The interpretation of the significance of casts should be done only by the clinician and not by the laboratory man. Many men, condemned, ten or twenty yeare ago, by life insurance companies, or by physicians, on the finding of a few casts in the urine, are found to be in perfect health at the present time. On the other hand, an inestimable amount of money has been saved to life insurance companies, and innumerable lives have been prolonged by the timely warning of a few casts.

Casts undoubtedly indicate an irritation to the kidney cortex, but are found in many other conditions than Bright's disease, namely: In fevers of all kinds; in intoxications ;after unusual physical exercise; after an unusually large meal, and in arteriosclerosis.

The question to be solved by the physician is that of [illegible] significance, and this can only be done by a careful study of the case including careful history taking, physical examination, blood pressure, functional kidney tests, etc.

Intestinal Stasis. By J. W. Corbett, Marlin, Texas. Texas Medical News, January, 1915, pp. 285-290.

The literature was reviewed showing nausea, headaches, vomiting, anorexia, loss of weight, cold extremeties, chloasma, mental apathy, nervousness, muscular pain, degeneration of the breasts and rheumatoid arthritis have all been attributed to intestinal stasis which in turn is attributed to constipation, ptoses, kinks and incompetent ileo-cecal valve. Now what causes these conditions: (1) Enervation or hypersensitive condition of the vagus and splanchnic nerves brought about by irregular habits, loss of sleep, use of stimulants, worry, bent posture, etc., giving altered circulation and impaired nutrition of the abdominal viscera. (2) Shallow, imperfect breathing, giving imperfect oxygenation of the blood and a venous stasis of the liver and portal circulation on back to the stomach and bowels. Campbell claims 1-12 to 1-13 of the body's entire blood is in the lungs during deep inspiration, while only 1-17 to 1-18 is present during expiration, this respiration being the principal vis affronte to draw the venous blood back to the heart and lungs. (3) Some intestinal infection, as claimed by Bassler that finally begins to get in its toxaemia when the body defenses have been weakened, nutrition impaired and splanchnic stasis induced by the above mentioned errors. A reversal of the blood pressure, being equal or higher lying down than while sitting, is often found, especially in neurasthenic cases with dizziness as claimed by Dr. Mary Arnold Snow. Treatment: (1) Deep breathing in lying posture with upward abdominal massage; (2) Regular habits and balanced rations; (3) Sinusoidal electricity; (4) Parafine oil, Trs. vomica, belladon. and physostig. with cascara. Lastly, charcoal tablets eaten with only one meal, in the morning, will pass out well mixed with the stool in twenty-four to thirty hours, while they will not be well mixed and will require thirty to sixty hours in cases of stasis.

Diseases of the Suprarenals. By O. P. Nuckols, Pineville, Ky. Kentucky Medical Journal, January, 15, 1915, pp. 65-68.

The author of this article cites the fact that the suprarenals furnish to the blood an internal secretion, that acts directly on the cardio-vascular system, and maintains the muscular tone of this system, and further that they have to do with elimination and body metabolism, and that their removal is followed by the rapid accumulation of toxic agents in the blood.

Complete removal of the glands has been followed by death within a few hours from toxic poisoning; however, the introduction of suprarenal extract into the blood has been universally followed by improved heart action and increased blood pressure.

There can be no doubt that the organic functions of the body are controlled by some specific influence, that in all probability act by and through the sympathetic centers, and which must be acted on by and through the blood containing these internal secretions.

It may be that the further study of these internal secretions may in time explain many of the obscure medical mysteries that have hitherto been unexplained, such as birth marks, human monstrosities, the loss of color pigment in the skin over night, or the sudden turning of the hair gray from some sudden emotion.

If this be true, it is also true that when the chain is broken by the removal, either by mechanical means, by disease, or by congenital defect the system is sure to suffer and disease and malformation follow.

Studies on Diphtheroid Organisms Isolated From Lymphadenomatous Structures of the Body. By Jno. A. Lanford, New Orleans, La. American Journal of Tropical Diseases and Preventive Medicine, September, 1914, pp. 191-198.

The author reports the isolation of seven strains of an organism presenting the pleomorphism of the so-called diphtheroids from the cervical lymph-nodes of two cases of Hodgkin's Disease, two cases of glandular tuberculosis, and one case of lympho-sarcoma, and from the spleen of a case of splenic anemia (chromogenic and non-chromogenic strains recovered). These organisms in general resemble each other, and four are similar to an organism isolated by Bunting from a case of Hodgkin's Disease and claimed by that author as the causal agent.

Inoculation of his several strains of diphtheroids into the axillary space of guinea pigs, produced only local inflammatory changes in the periglandular tissue with no changes in the lymph-nodes themselves.

In the opinion of the author, the tissue reaction occasioned by these diphtheroids was essentially that produced with a great variety of well known saprophytes and irritating foreign bodies.

In view of the widespread distribution of these organisms in various pathological lesions of the lymph-adenomatous and other structures of the body in which the etiology is well known and the negative results of his animal experiments. he doubts their causal relationship with Hodgkin's Disease and splenic anemia.

Directions. By U. S. Bird, Tampa, Fla. Journal of the Florida Medical Association, January, 1915, pp. 197-198.

This paper calls attention to the need of giving careful, explicit directions in administering drugs. The discrepancies between the directions as given and as observed, are explained by assuming a subconscious sense in the physician, due to familiarity with the subject, which automatically comprehends many details, which are not actively, intelligently recognized under ordinary conditions.

This peculiar mental state causes the physician to inadvertantly ignore details simply because they are too familiar. There being no equivalent or complement to this condition in the patient's mentality, he is subject to confusion and alarm, with unexpected results; a condition preventable by the exercise of proper care and attention to the directions. Attention is called to the need of caution in dealing with patients who are inclined to draw their own conclusions and make their own rules, and to the attendant who hastens to usurp the physician's prerogative.

Radiographic Gastro-Intestinal Diagnosis—A Note of Warning. By J. Russell Verbrycke, Jr., Washington, D. C. Washington Medical Annals, January, 1915, pp. 11-15.

The writer has noticed a growing tendency for physicians to send patients, suffering from digestive troubles, direct to the radiographer, for a diagnosis from the X-ray alone, without proper examination having been made by other means. He warns that the radiograph, valuable as it is, is but one of our methods of examinations, and should not stand alone or replace any other.

An analysis of seventy-five consecutive cases showed that in but twelve would an exact diagnosis have been rendered by the Roentgen examination alone, although in forty-three others it was of great service when considered with other findings. The clinician and radiographer should, when possible, make the fluoroscopic examination together, as well as review the plates.

The writer has found the X-ray most valuable in the oesophageal and colon cases. In stomach affections, because of difficulties of interpretation and the frequency of inconclusive findings, it is most important that the clinical examination be complete. By way of illustration a series of ulcer of the lesser curvature was studied and it was found that seven different findings were noted, the only absolutely definite findings being the niche or bud and organic hour glass. Even the niche may be simulated by a bit of bismuth in the third part of the duodenum, running high behind the lesser curvature.

The writer does not wish to discountenance the radiographic examination, but to sound a warning against attempting to let it take the place of a careful clinical examination.

Physical Exercises in the Treatment of Nervous Diseases. By Theodore Toepel, Atlanta, Ga. Journal-Record of Medicine, January, 1915, pp. 457-462.

Of various nervous affections amenable to treatment by physical exercise, the functional are those in which most striking results are obtainable. Of organic diseases locomotor ataxia and infantile spinal paralysis afford most satisfactory results.

In treatment of tabetic ataxia the process is essentially one of re-education; in treatment of infantile paralysis, one of development; in treatment of ordinary neurotic disorders, emphasis should be laid upon the disciplinary element of physical exercise.

The treatment of tabetic ataxia is based upon education of the central nervous system. The principle employed is identical with that called into play by a healthy person who would learn a complicated combination of difficult movements, as in rope dancing.

By attention that can be given in training patients with infantile spinal paralysis very marked improvement can be produced along two or three lines. First, the exercise of disabled groups of muscles tends to prevent their degeneration and aids in a partial restoration of power. Other muscles can be used in a substitutional way to take the place of those that were disabled. Finally, education of the higher nerve centers is an important factor.

In simple chorea, rhythmical foot exercise done to command serve as discipline for the nerve centers to which the members yield obedience, and the will gradually resumes its control over the muscles. In more serious cases the disorder of movement is complete, and the child is powerless to control the agitation of the limbs. In such cases treatment for four or five days is limited to general massage of all the muscles; then passive movements are undertaken.

(Authors' Abstracts continued on page 353.)

TROPICAL DISEASES AND PUBLIC HEALTH

THE SYMPTOMATOLOGY, ETIOLOGY, PATHOLOGY AND TREATMENT OF PELLAGRA.

(*Concluded.*)

(First part appeared in April issue.)

By J. Clarence Johnson, M.D.,
Professor Gastro-Enterology, Atlanta Medical College, Atlanta, Ga.

There is no single objective condition in pellagra always present except the eruption, which is not found in some other diseases at some period of their course, and save for its localization and symmetry, and its fickle behavior, this exhibits nothing more than the phenomena of local perverted vascular action in the secondary forms, more variable because of its unstable relation to the primary perversion of metabolism in the body at large.

Neither the extent of the eruption nor the severity of its morbid process is an index to the vital balance of the patient, nor does it seem to determine in any way the subsequent course of the disease. In some cases in which the eruption has been most extensive and severe the gastric and intestinal functions have been less disturbed, and the organic balance of the body has shown little change; while in others, in whom the eruption has been very mild, and with a sluggish history, the digestion and nutrition have been most impaired, and the general condition of the patient has been most grave.

We have seen the eruption come like a slowly increasing blush and similarly fade away, apparently without affecting the general functions or being affected by them. We have seen it develop like an acute inflammation with all its phases, and like the inflammation subside, leaving bare traces of its existence, and yet the general condition of the patient so affected grew rapidly worse until death ended the pitiful suffering.

We have seen patients present all the outward features and conditions of pellagra several years before the appearance of the eruption, and at the time of the eruption have less evidence of the disease.

It thus seems that the eruption adds nothing to and subtracts nothing from pellagra except conclusiveness in diagnosis, and affects the condition of the patient only by the measure of discomfort which it causes.

What, then, is pellagra? If it is not caused by errors in diet, by spoiled corn, or some vegetable or mineral poison, or by infection?

There is always something out of the usual when two of a family have at the same time a disease which is neither contagious nor infectious. It is more suggestive when a sequence of cases occur in the same house in different families. It shows that there is something in the surroundings out of the ordinary, or that those who develop the disease under these circumstances have something in common either of insufficiency, excess, innate perversion, susceptibility to a common influence, or have been exposed to a common exciting cause. For example, a man moves into a house in which there has been a case of pellagra. He develops the disease. It is evident that he gets it by coming into the house, brings it with him, or develops it without reference to his present or past surroundings. If he gets it from coming into the house, how and why? If he brings it with him, in what form does he bring it? If he gets it neither by bringing it with him nor by moving into the house, where does he get it?

Disease is not self-creative; neither is it reproductive. An organism which acts as an exciting cause can multiply in favorable media; a condition is not an entity. It has neither life nor action, and is therefore limited in its extent and duration, being a resultant of many forces.

We have known of cases occurring with

such rapid succession in the same family of the same household as to create strong suspicion of its contagious nature; but the weight of evidence is sufficient, we think, to refute this idea.

We consider the question of its infectious nature too serious to be dismissed with a simple statement of opinion, and will endeavor to gather competent testimony favoring or refuting, as it may be, any claim for such a conclusion.

If pellagra is due to infection its pathology must be closely akin to other infectious diseases and its morbid anatomy should be of similar type.

By virtue of the pseudo membrane in the mouth and throat we might indeed trace a kinship to diphtheria, but the analogy goes no further. Diphtheria, like other infections, is accompanied by fever. Pellagra is not, save as incident from some cause other than that which produces pellagra.

In diphtheria the Klebs-Loeffler bacillus is found in the throat. In pellagra no coccus or bacillus with pathogenic relation has been demonstrated. It is true that in diphtheria and pellagra there is myasthenia. (This may be explained by suboxidation in them both.)

Infectious diseases are transmissible, and they have many carriers in common. These carriers are food, drink, articles affording attachment in motion, atmosphere and personal contact. Infectious diseases are prevented by keeping apart two essentials, the exciting cause and a person lacking immunity; and further, by creating in those who have not been and cannot be kept apart from the cause an immune condition.

Has pellagra ever been prevented? Is any one immune from it? If so, in what does this immunity consist? Evidently such security can rest only in the natural functions of the body, permanent separation from infection, or the creation of conditions not congenitally a part nor by normal action a product of human life. Else pellagra is not a disease within itself but an expression of metabolic perversion without a single foreign cause.

We do not believe that the law of immunity from pellagra obtains as effectively or as generally as may be supposed, certainly not more than in other diseases, even those of accepted infectious and contagious nature.

It is the exception that typhoid fever, diphtheria and other diseases of this class occur in the same individual more than once. They have a predilection for certain seasons of the year, but are not confined to any season. Pellagra has a seasonal development and a seasonal recurrence.

The course and time required for recovery from diseases of acute infectious nature are usually limited and consistent, following close upon removal of the cause and full elimination of its products. If pellagra has limitations, we do not know it. We have watched its vacillations in patients without material change for a year or more. We have seen it come and go with the quickness and severity of a fulminating malady. Nor seemingly does the manner of attack develop from lack of potentiality in the patient but because of associate conditions, each a part but rarely concomitant in the course of the disease.

If pellagra is a general infection of a more chronic type, it should correspond in its history, in its onset and exacerbations with other diseases of this sort, especially those of a vitiated or pernicious nature. And its local manifestations should have much in common with those of these diseases. In this presumption we have a basis for suspecting a relation between tuberculosis and pellagra. In both, far advanced, there is a lack or an absence of hydrochloric acid in the secretion of the stomach. But we also find this lack and this absence in pernicious anemia, in achylia gastrica, almost invariably in cancer of the stomach, and often in cancer elsewhere than in the stomach. The frequency of this phenomenon and its relation to other conditions equally consistent in the general expression of pellagra and the other diseases named, attaches more than ordinary interest and significance to its association with any of them.

Different causes employing the same factors

under different conditions may produce similar but not the same results. Why, then, this singular manifestation in them all?

But there are cases of pellagra which do not bear the outward marks of depravity. If the same cause always operates in producing the disease, there must then be a vast difference in the condition preexisting in those who exhibit this variance in symptoms and severity. These extremes are not found so much in typhoid fever or any other of infectious type. Neither is there in any of them such wide difference between severity and symptoms coexisting nor such uncertainty of sequence.

The fact that we have not been able to isolate from the excreta of pellagra patients' bacteria of a pathogenic nature to which we might reasonably ascribe the disease, has not finally persuaded us that it is not infectious. There are many bacteria with which perhaps we are not familiar, or of whose existence we do not know. As we have said before, the cause is not always manifest in a result. There are many bacteria in the intestines which in certain media are no doubt harmless, but which in other media may assume a virulent disposition. For example, appreciable effect of the plasmodium on the body does not always follow quickly upon its introduction. Its actions may be silent until independently or otherwise some change is wrought in conditions *before* unfavorable to attack. Then comes the sudden chill, the remission, then another, and finally malaria in all its aspects.

If pellagra is infectious it must have an anomalous and uncertain period of incubation and there must co-exist with the action of the cause a condition of the body not usually present in infectious diseases.

The field of inquiry narrows when we apply the rule by which conclusions having practical value must be measured.

If a certain condition of environment always precedes the *occurrence* of a *disease*, then that *condition* may be counted *essential* in its *production*. If this *condition* is *ever absent*, with equal reason the same may be set aside as an essential factor.

If in any disease a given condition never existing normally and never absent in this disease can be found, the same can be reasonably counted an essential part and expressive of its nature.

If the agency of any suspected cause, known by virtue of its properties and its relation to other agents of its class, *is not evident in this condition found to be always present in the disease,* this agent should not be counted an essential factor.

Nothing but theory can be built upon a study of symptoms and incidents of occurrence alone. Statistics are therefore misleading unless out of them we can adduce the one essential condition common in each case, and then only by analysis of this singular condition can we come to a knowledge of its character and the causation of other features attending it, just as we learn the phenomena of the body through a knowledge of its units.

What singular condition of surrounding always precedes the development of pellagra? There is none that we know. What condition pre-exists in the lives of all those having it? Nothing besides a strained and unnatural order of living. What bodily infirmity or functional derangement antedates the disease? Nothing uniform in character, nothing consistent in fact except the failure of digestion. What incident of occurrence is always present? It is true that its prevalence is peculiar in the South, but it is not confined by latitude or longitude. What condition pathognomonic of the disease is evident in every patient? Only the eruption, myasthenia and some disorder of the alimentary canal. As myasthenia and the eruption are secondary, the only outward expression of the inward perversion which constitutes the one essential condition never absent is the disorder of the alimentary tract.

If this conclusion is warranted, and unless we have fallen into error, we believe that it is, then, the cause of the initial perversion of metabolism must have for its primary base of operation the alimentary canal

But without congenital depravity which predisposes to disease, and that state of nutri-

tion found only in starvation pure and simple, perversion of metabolism is impossible without an influence foreign to the body. Metabolism is but another name for the chemical and physical forces acting together under the guidance of a directing agency. These forces have no self-control and cannot of their own accord change their relations.

Either hypertrophy or atrophy may follow over-stimulation of a part, as the material for repair may be abundant or lacking, but the quality of its functions does not change unless there is some special obstacle to the work of the vital agency. This interruption can only come from without either in the form of food or drink, through the air which is inhaled, or have its origin in improper exercise or mechanical injury. If it may be supposed, and this is permissible in the light of facts, that there is no food, combination of foods or food adulterated which either under normal digestion by refusing to be digested, or by hindering the digestion of other foods, is capable of producing the disease, there is left but two possibilities: One, that native bacteria within a medium accidental in the alimentary tract become virulent in their action; or, by metamorphosis in a normal medium, assume a toxic nature. Either of these occurrences would, of necessity, be so anomalous and selective that they can hardly be taken into serious account.

The other possibility is that a specific pathogenic germ is introduced with the food or drink, its further movements being confined to secondary changes in the food following digestion.

Otherwise the germ itself, escaping the alimentary juices, enters the blood and has further action through the plasma. We believe that failure to find objective evidence of such a germ in the tissues chiefly involved, such as the skin at points of the eruption and the mucus membrane of the mouth and throat throws the weight of evidence towards absorption of toxic albumins as the way, and incoordination between metabolism and digestion as the means of the invasion and infection.

The answer to our question, then, will comprehend the answer to our original question, "Is pellagra a disease primarily of the alimentary tract?" We do not wish to form opinions nor to promulgate a theory, yet if we have faithfully observed the essential principles by which all reliable evidence must be built, and which have for their foundation the fundamental laws governing the functions of the human body and its relation to forces other than its own—then we are warranted in adding to our previous statement, "Pellagra is a disease of perverted metabolism, having its first expression in the epithelial structures of the alimentary tract"—the further statement that it is of infectious origin. The exact nature of this infection is yet a matter of doubt, but we believe that final elucidation will reveal the fact that the infectious agent finds its primary action through the end products of the food, and its ultimate effect in the blood, and that out of this emerges that condition to which we have so often called attention and defined as perversion of metabolism. We believe also that as a product of this perversion there is a lack of equilibrium in the inorganic constituents of the body, and that it is through the electrolytic variations of these compounds that we have many of the phenomena of the disease, especially those referred to the nervous system.

TREATMENT OF PELLAGRA.

If there is a specific for pellagra we do not know it. Conflicting reports have been made as to the efficacy of various agents employed in the treatment. Among the most popular are cacodylate of soda, salvarsan, arsenic and soamin. Some good effects have been ascribed to potassium iodide and to the chlorides, particularly to chloride of sodium.

There are doubtless others which have merit and deserve mention in a more extended list. Certainly there are a number of drugs which may be used and may be needed. It is not necessary to name them. An index is fur-

nished in the contemplation of the many symptoms present in the disease and the complex condition which always obtains, notwithstanding its apparent change in character, relation and extent. There is a constant and imperative need of conservation and support, and material for reconstruction and repair should have place in our armamentarium of drugs. There is one rule which we think is worthy of adoption. Use that remedy or combination of remedies which accomplishes the desired result with the least disturbance to the balance of the vital economy. This, of course, applies to any treatment, but in pellagra it has more than ordinary significance. When little dependence can be put upon the efficacy of digestion or the tolerance of the stomach, we are driven to the necessity of choosing between two evils, and it is expedient to accept the lesser. We have had no experience with cacodylate of soda, salvarsan or soamin, and therefore cannot speak authoritatively as to their virtue or indications for the use of either of them. We have been told by patients to whom cacodylate of soda had been given that good results had followed immediately, its action being both prompt and agreeable. Added to this and of greater value, is the testimony of physicians who have noted its effects. There are others who do not speak of it so favorably. A few patients had claimed that their condition instead of being improved, grew worse by its administration. This report, of course, must be received with question. There may have been, and doubtless were, other causes for the apparent change.

We have heard less of salvarsan and soamin. In one or two cases our attention has been called to some very ugly and obstinate sores which have been assigned to hypodermic medication in pellagra. Without being able to name the particular agent used, perhaps we should not refer to this. Our excuse for doing so is not to criticise this method, but to express the apprehension of unpleasant results if caution is not used in the selection of the remedy and in its administration. Our opinion on this, however, is not entitled to that consideration which should be given to the corroborative testimony of those who have by experience been persuaded of the safety and value of this method.

We believe that there is a positive indication for the use of arsenic in pellagra, but its virtue rests in a specific action in the disease, not on it. Its physiological behavior is not altered nor does it affect any change in the functions of the body other than that noticeable in any other disease having a perversion amenable to the peculiar action of the drug. With this in view we have confidence in its use and have so applied it.

We have reason to believe that there are some remedies more effective than others, and these we have given in almost every case, not always regularly throughout the course of the disease, but nearly so. In this, as in all else, circumstances alter cases. Multiplicity of doses is to be avoided as far as possible, but the ultimate requirements are never to be lost sight of.

We have been in the habit of prescribing the following mixture:

℞. Potass. Chlorat. ..... 3 ii
Tinc. Ferri Chlorid. ..... ounces ss
Ess. Pepsin (F.) q. s. ..... ounces vi
M. Sig. 3 ii in ¼ glass water t. i. d. to be taken through a quill.

There may at times appear contra-indications to its use, as for example in hyperchlorhydria, and when there is vomiting or much nausea. Then, too, the haemoglobin may be sufficiently high. But neither of these should stand in the way of its use. In hyperchlorhydria it can be best given before meals, when the local effect is more beneficial than otherwise. Besides, hyperchlorhydria is rare in pellagra and is not often to be considered a hindrance to the treatment. When nausea and vomiting are persistent it may be well to withhold the remedy for a while, but not for long. This objection can usually be removed by timely treatment, which will be discussed further on. As a rule the potash iron pepsin mixture is borne without discomfort or disadvan

tage even when the stomach rebels against food or other medicines. It is seldom necessary to suspend it for any length of time. On the contrary, the frequency of the dose can sometimes be increased with benefit. Yet the need for this is rare. Even after symptoms have disappeared or have been much abated, it is advisable to continue the medicine in the same amount, and hold it ready for resumption with the first suggestion of returning trouble, in the event that it has been stopped.

There is nothing else in our experience which has so quickly relieved the distressing conditions of the mouth and throat, even to the removal of the membranous patches, and control of the profuse secretion of saliva. It is more effectual having its action through the blood, whereas a topical application of the same, or any other remedy, can hardly reach the deeper tissues, and is more or less transitory in effect. It is interesting to follow the further influence of this compound on the general functions of the body.

The well known properties of iron as a reconstituent, the role it plays in oxidation and other processes of metabolism with which we are less familiar, gives it positive claim as an agent of unquestioned merit in this disease. Hardly less can be said of the potassium salts in their influence on cellular change and function, and its selection of the salivary glands for its elimination makes it doubly useful for the morbid conditions present in pellagra. In its ultimate effect this compound is antitoxic, a fact which we have had opportunity to demonstrate in diseases other than pellagra. Our faith in its efficiency has been increased by more extensive use, and by reports which have reached us from other sources, since the publication of our paper giving account of this several years ago. When disappointment follows its use there may be strong suspicion that some other detail of the treatment has been overlooked. This by no means is the only one of importance.

In a number of cases we have been able to emphasize the results of the above prescription, or secure additional good effect by giving at the same time the following capsule:

℞. Arsen. Iodid. ..... gr. i
Calc. Sulphid. ..... gr. xii
Pulv. Ext. Nuc. Vom. ..... gr. vi
Cerii Oxalat. ..... ʒ i
M. et ft. caps. No. 24. Sig. One t. i. d.

If the potash-iron-pepsin mixture is given after meals this can be given before meals, and vice versa.

This capsule sometimes has the disadvantage of producing nausea and rarely we have attributed to it a looseness of the bowels which soon developed. When there is any doubt of this it is well to leave off. If arsenic is yet indicated it can then be added to the potash-iron-pepsin mixture. We must not forget, however, that arsenic alone may upset the stomach and increase the tendency to diarrhoea.

But let us now return to the beginning of the treatment and see what else is to be done while giving the medicines we have been discussing. Later we will consider in detail the management of incidents such as nausea, diarrhoea, etc., and have something to say about the eruption.

We have tried to make clear the interdependence of digestion and metabolism which, of course, was only a way of reminding us of this relation and its bearing upon our study. If our definition of pellagra is correct, it is all the more important that the delicacy of this relation be observed. To this end we may never in our efforts towards the one lack consideration of the other. Our task is easier if without first reference to the work they do we hold the digestive organs as having part in the general metabolic process. We may then look upon the digestion as feeding metabolism and as a natural result being supported by it. In other words, like the quality of mercy, it receives by giving that which itself most needs.

We cannot hope to make plain or mention every indication in the management of the digestive system in pellagra, nor is it necessary to do so. In general the treatment is the same as it would be without pellagra. But

there are some special conditions having so much weight in the course of the disease and upon which our success in treating it so much depends, it is well to consider these more or less in detail.

Just as we estimate the vital quality of the patient, we should estimate the qualitative action of the digestive organs separately and their quantitative functional capacity when taken together. This is more practical and practicable than it appears upon first thought. We cannot trust to the patient's discretion either in eating or drinking if we would be sure of positive and all possible results. Neither can we, in view of the peculiar nature of the disease, trust the digestion and metabolism to its own direction and self-control. In pellagra the digestive organs, as we readily appreciate from what has gone before, have not that reserve from which to call as they have in the average disease, and that support which might with safety be withheld in typhoid fever or even in tuberculosis without lasting detriment to the patient, here offers an open door for further damage which cannot be repaired. Too much emphasis cannot be laid upon this. For example, when there is ptosis with marked atony or dilatation, outside the effect which these conditions have by virtue of their anatomical relation, there is marked interference with the water balance in the body. Especially is this true if diarrhoea complicates the situation. Not only this, it is impossible without proper attention to these obstacles to select and give that good which is essential, and which by digestion will amply repay the body at large for its expenditure of energy in the process.

A suitable support should be applied when there is any displacement or when there is much atony of the abdominal muscles. This not only economizes the work done by the digestive organs, but aids in restoring a balance of the circulation by means of the abdominal vessels.

Much can be accomplished also by the use of electricity outside or within the stomach as prescribed in various texts on this subject. A further effect of electricity is to add tone to the nervous system either by its sedative or stimulant action, according to which current is employed.

If there is catarrh or hyperchlorhydria these should receive attention just as if they were not associated with pellagra. Notwithstanding, we should always have respect for their relation to the general condition which antedated the disease.

We might with propriety multiply instances of this sort, but it is not within the province of this discussion to say more than is demanded for illustration of the principles in the treatment which is suggested by the complex pathology of pellagra. Before passing from this particular phase of the treatment we should also stress the importance of freedom from fatigue which is so easily brought about often by the slightest exertion. Nutritive changes in pellagra are slow and do not admit of sudden or severe demands upon them.

In some cases far advanced nausea and vomiting become very troublesome. It is then very serious, for it puts a stop to all our advance movements. Very little else can be accomplished until these are controlled or abated. For this purpose we have found nothing better than the following:

℞ Bismuth. Subnit. .....ounces i
Kali Carbonat. ..... ounces ss
M. Sig. 3 i stirred with white of one egg (unbeaten) taken every two or three hours.

All other efforts at feeding are withheld, as is also all medicine by the mouth until there is marked reduction in the nausea and vomiting. Very little water even should be given. This powder at first may not be all retained, but some adheres to the walls each time it is given until finally, and that very soon as a rule, the immediate trouble disappears. Then the regular feeding can be resumed; first by adding sweet milk and crackers, and later cereals, white meat of chicken, soft boiled eggs and so on. There is no objection to cerium

being used with the above powder. Sometimes it may increase its efficiency, but it is seldom needed. Of course, when vomiting is so persistent as to threaten the safety of the patient, resort must be had to nutrient enemata.

In selecting regular diet for pellagra patients we should be guided first by the ability of the digestive organs to do the work demanded of them, next by the needs of the body and last by the intrinsic value of the food when digested. This value, therefore, is relative and depends upon its final use in the functions and nutrition of the body. We have already had occasion to discuss the law controlling this and need not dwell upon it here.

It is worse than useless to feed a patient upon a diet either of a character or in an amount which he cannot digest. For this reason when the gastric or intestinal juices are much at fault, or when there is motor insufficiency, the food and the frequency of eating must be governed accordingly.

Having already determined the presence or absence of hydrochloric acid and the degree of motility, it only remains to direct those articles which can be taken care of by the saliva and succus entericus aided by appropriate digestants, and measure the bulk by the physical condition of the stomach and intestines. All things else being equal, the food should represent as nearly as possible the proximate principles required in health. Milk and eggs have the same place in a continuous diet that they have in any well selected diet in any other disease, or even in health, and for the same reasons.

As a rule the diet should include all three classes of food. Patients should be encouraged, and, when necessary, urged to eat enough whether they have relish for their meals or not.

The treatment of diarrhoea in pellagra is in no wise singular. Our experience with this feature does not exactly correspond with that reported by some others. We have often found it advisable, and usually necessary, to amend or restrict the diet; never, however, neglecting the needs of the body at large. We see no reason why the principle adverse to constipation should not apply in pellagra as well as in other diseases. And this rule has borne the best results in our hands. All fruits and vegetables are withheld; according to the indications set forth by the particular condition of the stomach and bowels apart from the diarrhoea the diet already prescribed is continued. Perhaps a little reduction in the amount may be best until the diarrhoea is under control. It is highly probable that the recurrence in attacks is sometimes due to neglect of these precautions. There is certainly no better safeguard against them than strict observance of the rules which have to do with prompt digestion and absorption. It lessens rather than adds to the patient's comfort and strength to increase a work which the digestive organs are already doing imperfectly.

Except in the last extremity, such as obtains in cases which so often prove fatal, the diarrhoea is not difficult to control. Usually bismuth and tannigen are sufficient:

℞ Bismuth Subnitrat. ..... ounces i
Tannigen ..... ounces ss
M. et ft. charts No. 24. Sig. One every two or three hours as needed to check bowels.

Or:

℞. Resor-Bisnol, Astring. caps (gr. v) No. 50.
Sig. One or two capsules every two or three hours.

At times these prescriptions can be given alternately to advantage.

When we wish to combine an astringent with a digestant the following is often satisfactory:

℞ Bismuth Subnitrat. ..... ounces ss
Mucil, Acac. ..... ounces ss
Benzothymol ..... ounces i
Elix. Panopept. q. s..... ounces iv
M. Sig. Two teaspoonfuls in water every two to four hours.

If there is much pain, paregoric may be added to a dose of this occasionally. It also

emphasizes the effect on the looseness of the bowels.

It is unnecessary to say that under all circumstances the intestines should be protected as much as possible against irritation. It may happen that rectal feeding may suddenly become our sole dependence, especially when mental complications arise, and it is not advisable to use the stomach tube.

Hydrochloric acid has proven of some value when it is lacking in the stomach, but only in a few cases. Calomel has its usual effect when there is much gas or when it is advisable to stimulate hepatic secretion. Saline irrigation has its place, not only for the removal of offensive feces, but as an excitant of the muscular tissue when this action is desired. Retention of normal salt solution also supplements the water deficiency in the blood and relieves the stomach of a part of its burden in supplying it.

Some advantage is to be gained in selecting a remedy for constipation when such is needed. In much depleted patients olive oil or aromatic cascara should have the preference. With hyperchlorhydria and less reduction in weight and strength hyposulphite of soda gives good results, and has the further advantage of lowering tension in the biliary ducts and duodenum, which are often a consequence of this affection of the stomach.

We have learned not to depend upon topical applications for the eruption, and hesitate to encourage patients in their hopes for speedy or permanent relief. Even the burning of the hands and feet, as well as other parts of the body, has successfully resisted our efforts to remedy it. It can often be alleviated but seldom entirely removed. Certain applications have at times seemed to be of benefit, but we have noticed the same modification in cases where nothing special was being directed to this symptom. However, this lack of efficacy should not deter us from an effort to free the patient from discomfort. When the burning is most pronounced in the tongue there is usually an appreciable effect of the potash iron mixture upon it and sometimes hardly less upon the extremities.

A simple and sometimes satisfactory lotion is equal parts of extract of hammamelis and cinnamon water, applied ad libitum. Hammamelis can also be used in the form of an ointment.

One objection to salves is the discoloration which hides from view the progress of the eruption, and some which have been advised are not free from unpleasant odor.

There is more decided action attending the use of bismuth subnitrate two parts with suprarenal extract one part, especially when there is much moisture or where the surface is denuded. These have special value when applied to indolent sores in the mouth or vulva. This value is increased by some absorption of the suprarenal extract, thus adding to the muscular tone and raising arterial tension. In this proportion the powder sometimes causes severe pain when used on a raw surface, and it is well to watch for this effect. It can be prevented by beginning with an increased amount of bismuth. We have witnessed very prompt healing following this combination when other agents had seemingly no good results.

Antiseptics have had little part in the treatment. We do not question their virtue as such, yet have never felt the special need of them. In the phlegmonous type they serve the same purpose for which they are used in any other inflammation.

Ichthyol with glycerin is ready and effective for touching up spots on the face or neck when appearances can be neglected. Besides, the stain which it produces fades rapidly, and the parts can be freshly painted when desired. For a more permanent protection collodion is better than glycerin, as it forms an artificial covering for the diseased area. Both of these can be similarly employed anywhere on the body, and have succeeded in allaying itching which accompanies the burning. The burning itself is sometimes reduced.

With all this it is wise not to lay too much emphasis on the eruption. The simplest thing done may be the best. The patients should be persuaded to wear gloves of some soft texture, such as can be washed when economy is to be

considered. A double purpose is served by the gloves, protection of the epithelium, whose integrity, even in the mildest forms, is seriously impaired, and the preservation of an equable temperature. Again, they hide from view an unsightliness which attracts attention and encourages comment, the mere consciousness of which or suspicion on the part of the patient reacts unfavorably.

TREATMENT OF THE NERVOUS SYSTEM IN PELLAGRA.

Beyond those comprehended in the general treatment already outlined no remedies are systematically needed for the nervous system.

The portent and possibilities of the milder manifestations depend more or less upon the psychological relation of the physician to the patient. When full and abiding confidence has been established many of the lesser obstacles can be removed without the aid of drugs.

We do not believe that any one by thinking can eradicate evil. Yet patients can be persuaded by proper thought to do those things which they ought to do and leave undone those things they should not do, and in this natural exercise secure what is needed and avoid what is harmful. We have many times reached the point of apparent helplessness when by timely insistence the patient re-engages in an earnest effort to get well and success has come when failure seemed imminent.

Patients should be made to feel that no stigma attaches to their disease, and be fortified by the faith which the physician himself shows in the final outcome of the treatment.

There is nothing which promises absolute relief from the dizziness. All doubt should be removed as to the possibility of it being induced by aural disease or astigmatism. If either of these are found they should be given proper attention. Any exercise or attitude which increases it should be avoided. If attended by much weakness, aromatic ammonia can be given with good effect.

Fatigue is always harmful. Agents which depress or overstimulate are likewise deleterious. For sleeplessness or excitability sodium bromide is usually sufficient. We have never noticed any effect on the eruption from its use. Neuronidia has usually succeeded in inducing sleep when bromide of soda fails. It is not followed by the sense of stupor which is caused by some hpynotics. When headaches are severe and not relieved by simple anodynes, opiates are indicated. We have noticed no ultimate bad results from hypodermics when positively needed. This does not apply to atropine. The action of hyoscine is equivocal. The more serious disturbance of the nervous system opens a field of many possibilities. We have had but little experience with the chronic form of insanity. As a rule, when insanity has developed the patients have rapidly succumbed.

We are glad to say that we have witnessed this result in only three or four instances. We formerly believed that the milder form of mental aberration was prognostic of a fatal ending. Later experience has demonstrated the fallacy of this opinion. We do not yet know to what extent the nervous system may be diseased or affected in pellagra and the patient yet recover. We are convinced by actual observation that insanity in pellagra lacks something of the elements essential to a classical dementia. Nevertheless, these cases cannot be treated satisfactorily or to the best advantage at home. A sanatorium set apart and specially devised for this class of patients is the proper place for them. In the special treatment which may here be indicated we do not think that the general principles which we have enunciated should be forgotten. But it is not within our province to discuss at length this particular aspect of pellagra. We are not warranted either by knowledge or expediency in doing so. We feel impelled to say, however, that with the possibility of insanity always facing us, it is all the more imperative that we leave no stone unturned to forestall its development, and there is less uncertainty if from the beginning we supplement and control those factors which are most active in preserving a body balance.

THE PRESENT STATUS OF TYPHOID PREVENTION IN SOUTHERN MUNICIPALITIES.*

By Allen W. Freeman, M.D.,
Assistant Commissioner of Health, Richmond, Va.

Any statistical study of typhoid conditions in the Southern States must depend for its basis upon the statistics of a few cities whose mortality records are sufficiently accurate to be recognized by the United States Bureau of the Census. Outside the registration cities, there is no information whatever available as to the prevalence of typhoid fever in the South. There have been, up to the last few years, no morbidity statistics worthy of the name and, prior to 1910, there was no distinctively Southern State admitted as a State into the registration area. The present brief study, therefore, is based upon statistics obtained from the mortality reports of the United States Bureau of the Census, and com-

*Read in Section on Public Health, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

TABLE I. TYPHOID DEATH RATES, SOUTHERN CITIES, 1904–1912.

	1904	1905	1906	3 yr. Average	1907	1908	1909	3 yr. Average	1910	1911	1912	3 yr. Average
ALABAMA												
Birmingham						107.6	59.7	84.0	49.5	45.5	37.3	44.1
Mobile	57.9	106.7	35.0	66.5	43.5	38.6	60.5	47.5	75.6	184.1	39.2	100.0
Montgomery						58.3	73.9	66.1	36.7	33.8	30.7	34.0
FLORIDA												
Jacksonville	85.5	93.5	76.3	85.1	155.1	104.0	77.8	112.3	102.3	67.9	31.2	67.1
Key West	85.8	58.5	28.3	57.5	109.8	44.4	34.9	63.0	70.3	65.6	53.7	63.2
GEORGIA												
Atlanta	60.8	70.1	75.2	69.0	102.5	68.5	50.6	73.5	50.1	66.1	41.8	53.0
Savannah	78.8	40.1	40.8	53.2	77.3	22.5	24.7	41.5	24.6	42.7	28.8	32.0
KENTUCKY												
Covington	39.7	45.8	49.5	45.0	53.5	33.3	20.8	36.0	15.0	29.9	14.6	20.0
Louisville	61.6	49.4	67.7	59.5	67.9	44.2	45.0	52.3	31.7	23.7	21.8	26.0
Newport	33.7	33.3	59.3	42.1	74.0	48.4	29.9	51.0	32.9	36.0	22.2	30.3
Paducah	60.6	91.1	62.3	71.3	82.7	55.4	35.6	58.0	65.7	60.4	59.6	62.0
LOUISIANA												
New Orleans	36.7	32.6	29.6	33.0	55.5	33.1	28.4	39.0	31.5	31.0	13.9	25.4
MARYLAND												
Baltimore	37.5	35.7	34.3	36.0	41.3	31.1	24.9	32.4	42.0	27.6	24.7	31.4
NORTH CAROLINA												
Raleigh	57.0	42.5	70.3	57.0	132.7	124.9	26.0	94.5	78.1	56.9	30.6	55.2
Wilmington	75.0	79.3	92.9	83.0	50.9	64.5	78.9	65.0	73.5	123.3	63.5	87.0
SOUTH CAROLINA												
Charleston	58.8	53.4	83.5	65.2	51.4	47.8	56.3	52.0	56.0	40.5	116.2	71.0
TENNESSEE												
Memphis	46.0	33.8	42.4	41.0	38.8	37.0	48.8	41.5	27.4	65.4	58.8	50.5
Nashville	54.9	71.2	74.4	67.0	82.6	59.5	52.0	65.0	48.9	53.9	32.9	45.2
VIRGINIA												
Alexandria	102.7	41.0	41.0	61.5	69.2	40.9	52.4	54.0	130.3	19.4	19.4	56.3
Danville						66.8	26.5	47.0	68.2	57.3	31.0	52.1
Lynchburg	114.4	58.2	65.6	79.4	102.8	69.3	34.3	69.0	30.4	40.0	29.3	33.2
Norfolk	58.2	37.9	73.2	56.4	80.3	62.7	58.6	67.2	34.0	53.9	22.8	37.0
Petersburg	105.5	64.2	137.6	102.4	55.0	50.4	71.0	55.4	66.2	53.3	32.2	50.5
Richmond	54.3	44.9	47.0	49.0	45.3	52.9	24.1	40.1	21.9	17.8	16.8	19.0

prises only those cities whose mortality statistics are there tabulated.

It must be borne in mind in a consideration of these figures that accurate registration of deaths is perhaps the first undertaking of any health office which really aims at efficiency, and that these statistics, therefore, represent only the more progressive of Southern health departments.

The present state of the science of typhoid prevention places within the power of any municipality the fixing of its own typhoid death rate. There is no doubt whatever that any Southern city can, by expenditures not beyond reason, reduce its death rate to a figure which is apparently about fifteen deaths per hundred thousand per annum. Beyond this point it is entirely probable that the figures can be still further reduced.

The three great factors which must be taken into account in typhoid prevention are water supplies, surface privies and milk supplies. It can be stated with a fair degree of accuracy that a Southern city, possessing a pure water supply, will enjoy a typhoid death rate varying between the limits of approximately thirty-five and sixty-five, and averaging approximately fifty deaths per hundred thousand. Below this point, under the sanitary conditions existing in the average Southern city, water purification alone will not avail. A rigid sanitation of all privies, preferably, of course, by the substitution for surface privies of water carriage of sewage, will carry the figure to a limit of approximately twenty deaths per hundred thousand. Bedside prophylaxis, supervision of milk supplies and similar measures will carry the figures to approximately fifteen, and, in all probability, when the heavy seeding with typhoid infection has cleared up through a continuation of these measures, the rate will go still lower.

Taking into account the probable variation in climatic conditions between the extreme limits of the Southern cities, we can predicate with a reasonable degree of certainty the effi-

TABLE II.

Relative Typhoid Death Rates, by 3 Yr. Periods.

Class A, 20 per 100,000 and under.
Class B, 20 per 100,000 to 50 per 100,000.
Class C, 50 per 100,000 and over.

1st Period		2nd Period		3rd Period	
Class A		*Class A*		*Class A.*	
				Richmond	19.0
				Covington	20.0
B.		*B.*		*B.*	
New Orleans	33.3	Baltimore	32.4	New Orleans	25.4
Baltimore	36.0	Covington	36.0	Louisville	26.0
Memphis	41.0	New Orleans	39.0	Newport	30.3
Newport	42.1	Richmond	40.0	Baltimore	31.4
Covington	45.0	Memphis	41.5	Savannah	32.0
Richmond	49.0	Savannah	41.5	Lynchburg	33.3
		Danville	47.0	Montgomery	34.0
		Mobile	47.5	Norfolk	37.0
				Birmingham	44.1
				Nashville	45.2
C.		*C.*		*C.*	
Savannah	55.2	Newport	51.0	Memphis	50.5
Norfolk	56.4	Louisville	52.3	Petersburg	50.5
Raleigh	57.0	Alexandria	54.0	Danville	52.1
Key West	57.5	Petersburg	55.4	Atlanta	53.0
Louisville	59.5	Paducah	58.0	Raleigh	55.2
Alexandria	61.5	Charleston	58.2	Alexandria	56.3
Charleston	65.2	Key West	63.0	Paducah	62.0
Mobile	66.5	Wilmington	65.0	Key West	63.2
Nashville	67.0	Nashville	65.0	Jacksonville	67.1
Atlanta	69.0	Montgomery	66.1	Charleston	71.0
Lynchburg	79.4	Norfolk	67.3	Wilmington	87.0
Wilmington	83.5	Lynchburg	69.0	Mobile	100.0
Jacksonville	85.1	Birmingham	84.0		
Petersburg	102.4	Raleigh	94.5		
		Jacksonville	112.3		

ciency of sanitary administration in the cities of the South by a study of their typhoid death rates. For this purpose it may be convenient to grade the cities into three classes, as follows:

Class A—Cities having a typhoid death rate of twenty per hundred thousand and under, indicating good water supplies and proper methods of sewage disposal.

Class B—Cities having a typhoid death rate of from twenty to fifty per hundred thousand, indicating improper methods of sewage disposal.

Class C—Cities having a typhoid death rate of fifty and over per hundred thousand, indicating either grossly insanitary conditions, polluted water, or both.

For the purposes of this paper those cities have been selected for which statistics are available from 1904 to 1912, inclusive. It is to be regretted that the figures for 1913 are not yet available. The nine years have been divided into three periods of three years each, and the cities classified accordingly.

A study of the tables leads to the conclusion that there is small cause for optimism in typhoid conditions in Southern cities. Only two cities had in 1912 good conditions. Ten might be classified as fair, and in the remainder, typhoid conditions must needs be classed as poor or bad.

There has been, notably in Jacksonville and Asheville, great improvement in the last two years and our next tabulation will doubtless show these cities in the "A" class. Other cities also are improving, and will in time graduate into higher classes.

MUNICIPAL CONTROL OF TYPHOID FEVER*

By W. Brownley Foster, M.D.,
Health Officer, Roanoke, Va.

When we consider typhoid fever as a di-

*Read in Section on Public Health, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

ease of mankind in general rather than as a malady affecting individuals, we are confronted with complex problems. In attempting to control typhoid fever, every state or municipality must correllate the present knowledge of its causation and of its modes of transmission with ideas of individual liberty and with property rights and interests of individuals; it must consider political relations, the financial status of the community, and other fundamental conditions. The lowering of death rates and of morbidity rates must be accomplished, if at all, with the same funds which must provide police, fire protection, streets, parks, playgrounds and other municipal improvements. A city's organization for the conservation of the health of its citizens can never be an ideal one. It must, of necessity, be organized, financed and operated on the basis of a compromise with other vital interests.

Hitherto these compromises have usually been highly unsatisfactory to the worker for the public health who has had to work with inadequate funds, with few and unskilled helpers, with lax laws and half-hearted public backing. Well financed and well manned health departments are rare. Yet the fundamental basis for all municipal health conservation, including the control of typhoid fever, is the efficient municipal health department.

Without a good health department no city may reasonably hope for even relative freedom from typhoid fever nor from many other preventable diseases. On the other hand, many cities which have suffered much from typhoid have later shown their ability to keep its ravages within reasonable limits. In Richmond, Va., the reorganization of the city's health department was followed by a campaign against typhoid under the direction of Dr. E. C. Levy, and each succeeding year has shown a decline in Richmond's typhoid death rate. In Yakima, Wash., a well financed and well directed campaign has accomplished a seemingly magical disappearance of typhoid fever. Many other instances might be cited in which

typhoid fever has not ceased its ravages until an efficient health department has been set to work to control it.

In many Southern cities typhoid fever is unduly prevalent, and it is likely to remain prevalent until efficient organizations are created to fight typhoid fever and other preventable diseases. This is a crying need. Let us hope that it will soon be met.

With the organization of a municipal health department the essential details of the anti-typhoid campaign are to be determined. These must, of necessity, vary with local conditions, though they are much the same in principle everywhere. The control of typhoid fever involves the blocking of all avenues of infection. The public supplies of water and of milk must be pure, and their purity must be constantly guarded. Flies must be fought. Privies must be replaced by sewered closets. Contact infection must be hindered. Reports of cases and of deaths must be secured that typhoid balance sheets may be kept and that epidemiological data may be secured. Immunization with anti-typhoid vaccine must be made available.

An educational campaign is usually an early need. Officials and influential citizens must be informed of the prevalence of typhoid fever which is usually more prevalent than they suspect, and they must be informed of the funds and the organization necessary for its control, and of the probable results of efforts for its control. The general public must be approached through newspapers, bulletins and popular addresses in churches, schools and elsewhere. Printed and verbal information on the nature of the disease and the means of prevention must be given in infected homes. In every available way the public must be told that typhoid fever is to be reckoned with, how it is transmitted, and how it may be prevented. This sort of publicity is one of our most effective weapons against typhoid. The decline of about eighty per cent in typhoid mortality in Roanoke, Va., in four years can hardly be explained except on the assumption that publicity is a potent factor in the control of typhoid fever.

A city attempting to control its typhoid morbidity must provide means for the early diagnosis of cases, and means by which the health department may secure early information of cases and suspects. These needs are supplied in large part by free laboratory service, embracing Widal tests, blood cultures and water examinations. Such laboratory service is popular and is of value to patients and physicians. Specimens for laboratory examinations often give the first information about new cases, and this early knowledge of cases and suspects is of value in promptly detecting active sources of infection. A recent instance will serve as illustration. One reported case of typhoid fever in Roanoke, Va., drank milk from a small dairy. Four blood specimens were received from patients who also used this dairy's milk. All four specimens gave positive Widal reactions. Early action for prevention of other cases from this milk supply was made possible by these laboratory specimens.

It is rather difficult to secure fairly complete reports of cases. Some over-worked physicians forget to make reports, some careless ones neglect to make them, and some obstinately evade making these reports which are the basis of some of the most effective preventive measures.

In small communities the health officer may become intimate with most physicians practicing in his vicinity, and he may gain the good will and active support of most of them. His facilities for giving expert assistance and his willingness to use his laboratory occasionally to aid a physician in the diagnosis of some puzzling case may be made the basis of lasting friendships and of faithful supporters. His willingness to fill gaps in the programs of his local medical societies enables him to let the physicians see health matters as he sees them. A few physicians respect nothing

but court proceedings, but by moral suasion or force of law prompt reports of cases must be secured.

After the public water supply has been freed from pollution, the typhoid problem becomes chiefly a problem of contact infection complicated by occasional milk infections. Flies, privies and general insanitary conditions demand attention here, and anti-typhoid inoculations afford a valuable palliative measure. But the greatest results are to be expected from detail work in homes in which typhoid appears.

Information should be secured from all cases as to water, milk, shell-fish and vegetables used, occupations, schools attended, length and places of residence, association with other cases, and all obtainable epidemiological data. This information will show active avenues of infection, and will disclose some bacillus carriers.

The family of a typhoid patient is usually anxious for information on the nature of the disease and its sources and modes of infection, and the means of preventing secondary cases. They will listen attentively to oral instruction, and may even read well written circulars. Many of them will try faithfully to carry out instructions, and most of them will adopt some precautionary measures.

The efficacy of such work has been shown in Richmond, Va., and elsewhere, and it appears that such work must be our chief reliance for the control of that residual or prosodemic typhoid which remains after water and milk have been freed from typhoid infection. This residual typhoid is of great importance in the South, and this mode of attack is especially needful in Southern cities.

AUTHORS' ABSTRACTS.

Tropical Diseases and Public Health.

Examination of Drinking Water on Railroad Trains. By Richard H. Creel, Washington, D. C. United States Public Health Service Bulletin No. 100, November, 1914. pp. 43-56.

One thousand specimens of water were secured from coolers of trains arriving at Washington from cities of the Eastern and Southern States. The examination included an estimate of purity of water at its source, a study of various methods of storage, a study of the bile-presumptive test for determining presence of colon bacillus. Evidence of the greatest pollution was found in coolers of mail cars and coaches, presumably due to lax methods of filling tanks. Separation of ice and water reduces the bacterial count. Waters from Southern States had greater B. coli and total bacterial count than water from Northern States. The striking feature of the examination was the preponderance of gas-producing anaerobes in many waters which were colon free and of presumably acceptable purity. Gas-producing, spore-bearing anaerobic bacilli are found in waters of remote pollution or those which have been chemically treated. The bile-presumptive tests indicated 22 per cent of the samples contained B. coli. By confirmatory tests only 9 per cent contained colon bacillus. Due to the reducing action of bile, fermentation tubes filled with bile-lactose-broth are created oxygen-free, and are suitable for anaerobic cultures. Anaerobic bacilli will ferment bile-lactose media, but not plain lactose-broth, except the latter be made oxygen-free. Recommendation by the investigator embraced: Separation of ice from water; larger storage tanks for coaches and mail cars; provision for mechanically filling the storage tanks, and water used by common carriers to be certified as pure at its source.

Live a Little Longer—The Rochester Plan. By Miss M. E. Bingeman, Rochester, N. Y. Proceedings of the Eighth Annual Meeting of the Association of Life Insurance Presidents, pp. 47-58.

The Rochester Plan has not only a humanitarian and economic, but also a commercial interest for life insurance companies. It offers health education to women in the public schools, outside of school hours, in the afternoons and evening.

The lessons teach disease prevention, home nursing, dietetics, care of children, first aid in emergencies.

The Board of Education is responsible for lessons and teachers. A committee representing the Rochester Public Health Association, Rochester Medical Association, Chamber of Commerce, Woman's Educational and Industrial Union, Union Ministerial Association, Rochester Life Underwriters, Central Trades and Labor Council and others, is responsible for attendance.

It is conceded that to prevent preventable diseases the public must be educated, but the most efficient method, oral instruction from teacher to pupil, has not been utilized.

The claim that people will "pick up" all necessary information from experience is as untenable as the theory that they have not enough experience to make instruction safe or profitable.

The most intelligent will be the first to grasp such an opportunity.

The people who need instruction doctors and nurses qualified to instruct, schools conveniently situated, these should be brought together.

Because the Association of Life Insurance Presidents is perfectly fitted to head a movement for

accomplishing this, it is invited to perform this service to the country.

Note.—The address, in monograph form, may be procured by writing to The Association of Life Insurance Presidents, No. 1 Madison Avenue, New York, N. Y.

Sterilization. By S. M. Miller, Knoxville, Tenn. Journal of the Tennessee State Medical Association, January, 1915, pp. 364-366.

The operation of occlusion of the Fallopian tubes in the female, and vas deferens in the male for purposes of sterilization, are recognized procedures, perfectly certain in the end sought, attended with scarcely any appreciable risk and free from any disturbing influence on the physiologies of the generative organs, aside from the prevention of fertilization.

The field of application of these principles is suggested in criminology, eugenics and in sociology.

As a deterrent of crime and as an effectual means of arresting the multiplication of the unfit, criminologists are readily taking this rationalistic hint from the medical profession.

Another class, which by no means small, falls more directly within the province of the physician, to-wit: All those who from physical or pathological reasons are made worse by child-bearing, and who may or do only give promise of a defensive progeny. Few graver matters confront the physician than this which so often involves the life interest of the patient. Something more definite is expected and should be forthcoming. Some departure should be provided against the many dangerous expedients employed by these unfortunate ones when left to their own resources. The malthusian idea of moral restraint is too obviously remote for dignified consideration. Voluntary restriction of child-bearing, with or without legitimate occasion, is uniformly attended by disastrous consequences, and the graver matter of arresting the process after its inauguration needs but the mere mention for its unqualified condemnation.

The Opportunities and Needs of the American Student and Investigator in Tropical Medicine. By Richard P. Strong, Boston, Mass. Amer. Jour. of Tropical Diseases and Preventive Medicine, Vol. II, No. 1, July, 1914, pp. 28-40.

With our greatly increased trade relations with tropical countries, new demands were created for an accurate knowledge of diseases prevailing in these lands, and for well-trained men to investigate these problems and introduce sanitary measures therein. During the existence of the American Society of Tropical Medicine many favorable and brilliant results have been achieved. The death rate is diminished and development of fertile lands rendered possible without terrible loss of life.

The results in sanitation obtained in Havana and Panama, the successful campaign against hook worm disease in the United States, the tremendous reduction in the mortality in the Philippines, and the discovery of causes of many tropical diseases, should only serve to emphasize the great fields of opportunity which exist for original investigation. Moreover, no training will more help the investigator in understanding modern scientific medicine than a training in tropical medicine and its allied branches—protozoology, entomology, bacteriology and helminthology.

In spite of the great need of trained workers, no ideal institution for instruction and research in tropical medicine has been established in this country, (as in Great Britain, France and Germany), and only on account of lack of sufficient endowment. However, Harvard University has organized a very complete School of Tropical Medicine with a six months' course of instruction, where students may obtain satisfactory training in tropical medicine. The establishment of an American Colonial Service would also help materially in the appointment and promotion of men properly trained and fitted to carry on a successful warfare against tropical diseases.

The Tuberculosis Problem in Rural Communities —Its Modern Aspect and the Duty of Health Officers. By S. Adolphus Knopf, New York, N. Y. Public Health Reports, December 18, 1914.

In summarizing, let us ask what can the health officer of a rural community do in the face of the tremendous difficulties which confront him in his honest and sincere effort to be helpful in the combat of tuberculosis, and answer this question by picturing the ideal of what such an office should be.

The ideal health officer of a rural community must be an ideal man; he must be beloved for his personality, for his tact in dealing with patients, with his fellow physicians, and the other authorities in the community. He must be a thoroughly trained sanitarian and a thoroughly trained medical man, to whom his fellow practitioners can look up and whom they can call on for counsel.

And what are the particular duties of this officer concerning the tuberculosis problem? After having united with his fellow practitioners of the community to form an anti-tuberculosis league, after they have pledged themselves to aid in a conscientious war, not against the tuberculous but against tuberculosis, he should give regular popular talks to the town or village folks on the prevention of this disease, of course always in co-operation with the local physicians. He should prepare himself carefully for such tuberculosis conferences, for it is not so very easy to talk the language of science in the language of the people. Sputum examinations should be made gratuitously in the laboratory of the health officer and he should be empowered to enforce anti-spitting and bovine laws. He should never fail to lay emphasis on the value of early diagnosis and the fact that for everyone to have his chest examined annually or semiannually by his family physician is one of the safest, and, from every point of view, most profitable investments for retaining health that could possibly be made. Since the health officer counsels these people to be examined by their own physicians,

they will see the altruism of his giving this valuable advice.

Prevention of Suicide. By Tom A. Williams, Washington, D. C. American Journal of Insanity, January, 1915.

The desire for suicide is psychological, a perversion of the instinctive will to live and power by means of a conditioning of that reflex impulse into its opposite by pathogenetic stimuli.

As in these people common sense, religion and ordinary medical advice have alike failed, special psychopathological knowledge is required. It is by means of this that the patient acquires an understanding of his perverted adaptability and learns means of adjustment. The examples considered are on the one hand the type where unmeasured emotion rules as seen in failure, bereavement or unrequited love; and on the other hand the maladaptations arising from erroneous notions.

A youth attempted suicide twice. In a sanitarium he tried twice more. When he was placed under the writer's care, analysis showed that a sense of unworthiness, which his environment only augmented, and apprehension of insanity attributed to masturbation was the prime cause. Enlightenment and re-education led him quickly to work in contentment.

A young banker whose engagement to marry had been broken, lost 40 lbs. weight, could not concentrate, became lachrymose and took steps towards suicide. He was cured by re-education and physical work after a hard struggle.

A lawyer had for years struggled against an intense fear, the origin of which he did not know. Twice he prepared for suicide. After the origin of his fear was revealed by a proper psychanamnesis, adjustment was rapid.

Reference is made to instances where the suicide motive is met suddenly in a quasi-trance by an opposite motive, which the subject may then attribute to a supernatural agency. The psychology of these cases also is explained.

The Coming Movement for Extending Human Life. By Irving Fisher, New Haven, Conn. American Journal of Public Health, January, 1915, pp. 15-19.

Our boards of health are now proclaiming that health and long life are purchasable commodities. Before the present war life was lengthening in some parts of Europe about seventeen years per century, owing chiefly to a decreased loss of life from infections before middle age in spite of an increased loss of life after middle age from degeneration.

The great broad fact seems to be that while we are freer of germs than our ancestors our vital organs wear out sooner. Personally, I believe that the chief cause of this degeneration is the neglect of individual hygiene.

Strong corroboration of this conclusion had been forthcoming in the last six months from the experience of the Life Extension Institute, devoted to promoting the idea of prevention in health work. Considerably over half of the young men and women examined (2,000) in one investigation were found to be in need of medical attention, while 38 per cent were on the road to impairment.

The early diagnosis and prompt treatment of the degenerative diseases should evidently be the next great step forward in the fight for improving national vitality. Pasteur has only partly released us from mediaevalism. We still need to add to our resources of hygiene the cultivation of a sound mind in a sound body by the exercise of simple personal hygiene through the proper use of air, food, rest, exercise, bathing and wholesome recreation. The gains in human vitality which we can secure from applied physiology will, I believe, prove as surprising as those we are already securing from applied bacteriology.

The Pathologic Affinities of Beriberi and Scurvy. By S. T. Darling, Ancon, Canal Zone. Journal of the American Medical Association, October 10, 1914, pp. 1290-1294.

Observations made with General Gorgas in South Africa and Rhodesia, among negro laborers in the gold mines, disclosed interesting pathological lesions in scurvy which strongly indicate the etiological relationship of scurvy to beriberi. Scurvy and kindred diseases are par excellence the result of a deficient or one-sided diet. Rickets, infantile scurvy, scurvy, experimental scurvy of guinea pigs, ship beriberi and polyneuritis gallinarum are diseases belonging to the diet-deficiency group. The first in the series are osteocachexias; the last are neurocachexias. Right-sided cardiac hypertrophy with dilatation (eccentric hypertrophy) and fatty degeneration of the musculature with degeneration of the vagus, are lesions almost pathognomonic of beriberi, and Darling found in cases of scurvy of the Rand type very striking right-sided cardiac hypertrophy and degeneration, the left heart remaining apparently normal, with degeneration of the vagus—lesions indicating causal factors similar to those of beriberi. In some of these outbreaks well-marked cases of scurvy would be seen, while other cases from the same group of men exhibited neuritis, ataxy and cardiac dilatation with edema of the tibia. Couvy gives an interesting account of an outbreak of disease in a garrison of soldiers in Northern Africa. Beriberi appeared first among the native soldiers, later cases of scurvy appeared among them. The officers, however, during the same period, had scurvy only. Suppression of rice from the dietary and its replacement by other articles of food, was followed by disappearance of cardiac troubles, edema, etc., but had no effect on scurvy. A certain exclusive diet will cause scurvy in guinea pigs, yet the same diet in pigeons will cause polyneuritis.

SURGERY, GYNECOLOGY, OBSTETRICS AND GENITO-URINARY DISEASES

END RESULTS OF ROUND LIGAMENT FIXATION.*

By W. Kohlman, M.D.,
New Orleans, La.

Retroflexio mobilis may exist in a large number of cases without giving rise to any symptoms. Some gynaecologists do not believe that the displacement causes any disturbance and consider the symptoms, which may be present, due to a complicating peritoneal irritation; others are of the opinion that the displacement is the prime factor in the development of symptoms. The majority consider treatment advisable:

1. If symptoms are present which must be considered due to the position of the uterus, as pain, hemorrhage, sterility, reflex irritations, etc.

2. If symptoms are present which are increased by this position, or if pathological conditions are found which are not benefited by treatment, as, for instance, a chronic metritis that does not yield to proper treatment on account of a coexisting retroflexion.

In such otherwise uncomplicated cases the Alexander-Adams shortening of the round ligaments with opening of the peritoneal fold has given good results in the hands of many operators, and preserves the physiological mobility of the uterus more than any other operation

In recent years methods of shortening the round ligaments by intraperitoneal surgery have been preferred.

If there is the slightest doubt in regard to the mobility of the uterus an abdominal operation is absolutely indicated.

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

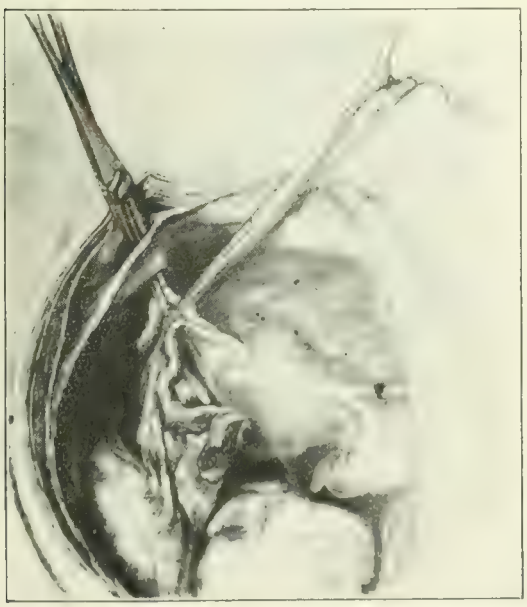


Fig. 1.—Left round ligament being drawn through artificial opening of peritoneum. (Liepman.)

Fig. 2.—Both ligaments being drawn through artificial opening of the peritoneum. (Liepman.)

The immobility of the uterus may be due to fixation of the body of the uterus, direct fixation, or to adhesions of the adnexa, indirect fixation, or the body of the uterus and adnexa may be held by more or less extensive adhesions.

This complicated dystopia of the uterus is of great clinical importance. The analysis of these cases shows without exception general and local disturbances. But it is often difficult to decide if the symptoms are due to the faulty position itself or to the complicating pelvic peritonitis. That is the reason why the opinions of many operators vary greatly regarding the treatment of these cases.

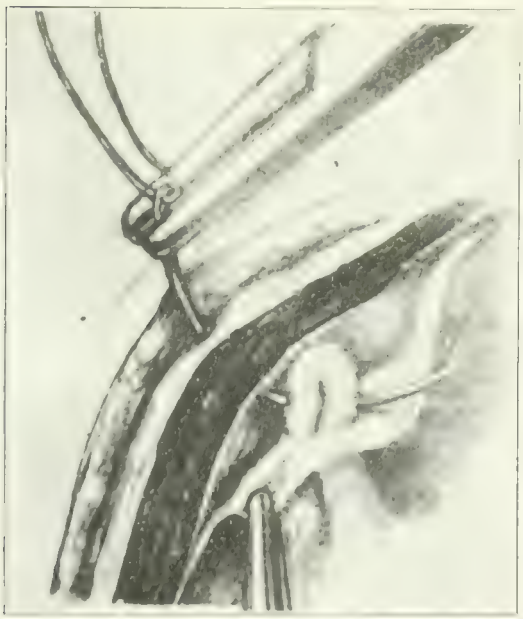
Some consider the presence of a fixed retroflexion an indication for surgical interference, while others treat such cases, if the symptoms are not very disturbing, only by general medication, or by general medication and local applications.

Surgical treatment is indicated in all such cases not benefited or relieved by general and conservative local treatment. The object of the surgical interference is to free the uterus from the pathological fixation and accomplish a permanent normal position.

To accomplish this object it is necessary to open the abdomen, to divide the adhesions with either instruments or fingers, depending entirely on the extent or density of the adhesions. Pathological conditions of the adnexa, which are most frequently met with, are to be treated as conservatively as possible.

To hold the uterus in as nearly a normal position of anteflexion as possible the following methods of round ligament fixation have been mainly, though not exclusively, employed in the cases operated by me:

In cases where the round ligaments have been found normal, or nearly so, the Gilliam-Doleris method of fixation was employed with the modification that the ligament was fastened under the fascia; or, in suitable cases, the abdominal operation was, following the suggestion of Rumpf and Palm, finished with an Alexander-Adams fixation. The results of these operations are uniformly satisfactory, especially in regard to position, as in these cases the complicating affections of the adnexa are



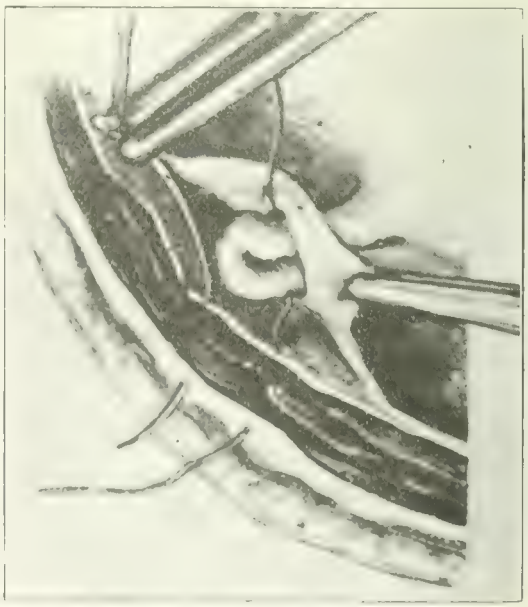


Fig. 4.—Second act of fixation of the round ligament. (Liepman.)

not very marked and the round ligaments are in normal condition.

But in a large number of cases the round ligaments are infiltrated and are not very pliable, a condition preventing their being drawn to the more superficial structures for fixation. This is the class of cases where it is yet possible to make a round ligament fixation following the method of Olshausen; or it is necessary to make a fixation of the uterus itself as described by Leopold, Czerny and Kelly. This ventral fixation ought not to be done where future pregnancy is to be considered, as normal delivery in these cases is practically impossible.

The first mentioned fixation has not given satisfactory results in regard to the permanent position of the uterus; the adhesions following this method are not broad and strong enough as only a small portion of the ligament touches the parietal peritoneum.

During the last six or seven years I have used a modification of this original round ligament fixation of Olshausen's, as recommended and performed by Bumm in 1905, and described by Liepman in 1906. Though the modification is very simple, it gives far better results. It forms a stronger fixation and at the same time insures a normally movable uterus, therefore not interfering with future pregnancy and delivery—a fact of great importance in the majority of these cases.

Olshausen's fixation consists in passing a suture from fascia through muscle, peritoneum and round ligament and then back; this suture is tied between fascia and skin. This procedure only allows therefore a small adhesion where round ligament touches parietal peritoneum. Bumm's modification is done in the following manner: The parietal peritoneum is loosened to the extent of about one inch and drawn towards the middle line. By means of a closed clamp the peritoneum is perforated in the height of the internal ring. The round ligament is drawn through this opening and held there by a suture, which is fastened over the fascia of the rectus.

I have employed this operation since November, 1907. In the summer of 1910 I reported the results of 125 cases before the Orleans Parish Medical Society. The results at that time were very good, though it must be considered that the time of observation was rather short. Of 45 cases examined at that time there was only one recurrence. Up to January 1, 1914, I operated 91 more cases by this method, making a total of 216 cases. On account of the short time of observation I have not included any cases operated during the last year.

I have been able to communicate with and examine 70 of these cases, 60 of whom were found in good condition in regard to the position of the uterus and are free of important symptoms. In 4 cases the uterus was found in retroversion complicated with moderate local symptoms. Six cases have been operated on again, and uterus was found in normal position, the ligaments only slightly elongated; operation was required on account of recurrent disease of the adnexa.

The question which is so important in most of these cases, the question of pregnancy, is a point to which I wish to draw your special attention. Eight of these cases have been pregnant since the operation, two twice, and have passed through a practically normal delivery. The cervix was found in the beginning of labor somewhat drawn to the back but conditions rectified themselves during the progress of labor. In two cases only a low forceps was employed on account of delayed expulsion. Two cases came under my observation quite recently in their eighth month of pregnancy, and so far they have progressed without any pain or discomfort.

Considering that most of these cases had severe pathological conditions complicating the fixed retroflexion at the time of operation, I believe that the results gained by this method have been very favorable, especially in consideration of the fact that in most of these cases a ventral fixation of the uterus would have been necessary.

DISCUSSION.

Dr. F. G. DuBose, Selma, Ala.: Gentlemen, I think all of us appreciate Dr. Kohlman's statistics, and his splendid paper as well. I ask your indulgence for the liberty I take in differing with him with reference to the satisfactory results following fixation of the round ligament into the anterior abdominal wall, which does violence to the normal anatomy, and invites obstruction of the bowel through one of the three openings left after this technique. In those cases of complete prolapse none of the round ligament fixations nor any of the methods of mobile uterine suspension or fixation will suffice. In those conditions of pelvic hernia a V-shaped resection of the uterus and the suturing of the lateral wings over the aponeurosis of the rectus muscle will effect a cure of the prolapse and should be accompanied by repair of the pelvic floor done as a part of the operative plan. It should be remembered that this with all other fixations either of the uterus or the round ligaments substitutes one pathological condition for another. That there is a pull constantly from these adhesions on the parietal peritoneum that gives the patient pain and usually makes her nervous. Any suspension of the uterus through fixation of the round ligaments to the parietal peritoneum, whether it be after the technique of Gilliam as representing the most approved of them all, or by any other method is to be avoided whenever possible, on account of adding to the serious condition of an already severe pathology, the constant -traction on the sensitive parietal peritoneum and the train of neurasthenic symptoms that follow this as well as other adhesions within the abdominal cavity. I prefer any of the operations for shortening the round or broad ligaments with the abdomen by plication, especially the one devised by Coffey. By plicating these ligaments normal uterine support is most nearly imitated and are the nearest of present methods to ideal, especially with reference to the freedom from pelvic or abdominal pain subsequent to the operation.

Dr. Edmund J. Horgan, Fairfax, Va.: I wish to make a protest against these operations for the fixation of the round ligaments to the abdominal wall. The anatomical structures are so markedly changed and their relative position is such that it does not seem to me to be a good surgical procedure. Furthermore, there is a dangerous defect which one should always have under consideration, in the Gilliam, Olhausen and Dr. Kohlman's modifications of it, and all operations where the round ligaments are fastened or pass through the peritoneum. Between the two points where the round ligaments are attached to or penetrate the peritoneum of the anterior abdominal wall and from these points to the internal abdominal ring, on each side openings are left through which a loop of intestine might accidentally pass and become strangulated or adherent. Whether this condition has ever been reported, I do not remember.

The round ligaments should not receive the entire credit for the end results which are obtained when a condition is operated upon which corrects other structures at will. It is a fact, though, that in correcting retrodeviations of the uterus, we often, disregard every other structure but the round ligaments and try to obtain a correction of the entire defect by an operation on them. It is necessary to give the round ligaments a great deal of consideration, but there are two other ligaments so often disregarded, namely, the utero-sacral ligaments.

When the utero-sacral ligaments are poorly developed or injured during pregnancy or childbirth, they should be shortened, or there should be a fixation of their musculo-fibrous tissue to the periosteum on the anterior surface of the sacrum. This will do a great deal to hold the lower segment of the uterus in position, especially when aided by lengthening of the anterior vaginal wall.

Dr. Kohlman, in speaking about his cases of retrodeviation of the uterus, did not bring up the point as to how many were nullipara and how many multipara. In a nullipara the condition could be corrected by the method outlined above. In a multipara, where there is injury to the pelvic or perineal fascia and muscles in addition to retrodeviation, one would have to do a colpoperineorrhaphy and probably an amputation of the cervix before obtaining a good result from the operating on the round ligament and a permanent good position of the uterus.

Dr. G. C. Rodgers, Elkins, W. Va.: This is a subject that I feel deserves the consideration of every man present who does gyneological work. To the beginner, these operations all look simple and satisfactory, but as the time passes on he finds none of them satisfactory, and the more we study the various suspension and fixation operations, the more we realize that they are theoretically incorrect.

We attempt to correct a pathological condition and in many cases we create pathology but little better than that we have corrected, and so long as we have new ligaments pulling on the parietal peritoneum or that uterus held out of its normal poise, just so long will our patients continue to have trouble and our work fall short of its aim.

While the intra-abdominal shortening of the round ligaments does good in many cases, yet I decidedly prefer the old Alexander operation in connection with an abdominal incision. With this operation after the uterus has been freed (and the pelvic viscera inspected) it can be brought into its normal position and held there, without being abnormally fixed or traction being made in some abnormal direction.

After any of these operations, the pelvic floor should always be inspected and repaired if needed, neither do I mean the ordinary skin puckering operations usually done on the perineum, but each muscle and fascia should be dissected up and carefully united to its fellow of the opposite side.

Dr. H. Stuart McLean, Richmond, Va.: I think in doing these fixation operations we are endeavoring to correct a thing that is often impossible of absolute correction. It is impossible by surgical procedure along these lines to correct immediately or even ultimately a deformity—a pathological deformity which is the result of months and years of stretching and straining and wearing out. I do not believe that there is any ideal operation for restoration of the position of the uterus for the majority of the cases in which we do the operation. I believe the majority of cases in which we are justified in doing such fixation is in

adhesions, where we should fix the uterus for a sufficiently long time to allow the adhesions in the culdesac to heal over. I am very dubious as to the feasibility of these various suspension operations for the correction of displacement. I do them, for I do not know anything better. I always try to fix a good peritoneum, but even then I doubt the ultimate success of my fixation method. My patients are not always well. They have pain and procedentia. It is not the ideal method and there is no ideal way of restoring a condition which is the result of continued stretching and wasting of tissues.

I made up my mind when I neard Dr. Kohlmann's paper, that I would criticise it a little bit, and I continued of that mind until Dr. DuBose spoke. He spoke of multiplication of pathological conditions and areas for affording new adhesions and new pathological development, then he advocated the internal plication method. I have done many secondary operations in patients who have had internal plication methods by other men, because they have adherent viscera at the site of plication. We create multiple points for re-adhesions. I think if Dr. Rogers is correct, there is only one way of restoring the position of the uterus: by taking it along the lines of the normal pull of the round ligaments. If you do it right you will not have strangulation, because you pull it up in such a way that you make the portion of the round ligament fit tightly from its normal to its new point of exit. It is not ideal, but it is as nearly ideal as anything we have.

Dr. Chas. H. Harris, Fort Worth, Texas: There is hardly a section on gynecology where this subject is not brought up. When we stop to think about it, there are a number of things relating to the position of the uterus in which the round ligaments play only a minor part, and any operation creates a new pathological condition, and if we are not in a position to substitute a better one, in many instances we are liable to do great harm.

I think we should first study the mechanical principles underlying the support of the uterus, and if we thoroughly understand these we will find less occasion to open the abdomen for the uteri, that is only possibly tilted back. It is too great a subject to enter into satisfactorily in such few words. One of the overlooked factors is the loss of equal entra-abdominal pressure caused by the falling of the abdominal contents, due to the relaxation of the rectus muscles allowing the viscus to press downward and backward on the uterine body, stretching the round ligaments. No ligamentous operation in these cases will hold this uterus forward. Such cases should have gymnasium exercise and orthapedic advice. It is a big subject and before we open a woman's abdomen to tie up the round ligaments we should be sure we understand the causative factors and that our operative procedure is going to correct them.

Dr. Kohlmann closes: Many papers are written and it is always the same question regarding the ultimate result. This question is to be extensively discussed at the coming International Gynecological Congress to take place in New York next year.

So far as I can see no one method has given uniform satisfaction. The remark of Dr. DuBose that he would prefer an internal fixation, or something like it, is very correct, and I favor an internal shortening of the round ligament myself. In some cases you can do it, but in these cases I speak of, where you have inflamed parts, you have got to use something to hold the uterus up, otherwise it is going to fall back and get adherent again. It is true that it is only a makeshift to use that little round ligament; at times it is, but after all it is the best that we can get.

He mentioned treatment of procedentia. I have not spoken of that in my paper. I do not make an abdominal operation for complete procedentia. I believe for an abdominal operation of that kind the vaginal operation gives better results and does not disturb the patient as much as the abdominal. Of course you have to do a complete suture of the perineum, which is often more important than the fixation.

Of course there are some cases of strangulated bowel. I operated once myself, and though the patient showed a complete cure so far as the position of the uterus was concerned, she had a pain in her left side which I could not explain by local findings. Later on, on account of excessive hemorrhage, an abdominal operation was necessary, which showed a loop of the small intestine had slipped through a band of adhesions.

I do not believe that I would ever use the utero-sacral ligaments. The round ligament is small enough in many cases.

I have not investigated my results in the mobile retroflexion. I merely want to bring to your attention the fixation of the uterus in extreme cases. I always do an Alexander in the mobile variety, because I do not believe I would want to open an abdomen for pain due to a mobile uterus. As most of these patients show nervous symptoms, I generally have them wear a pessary for three or four months, and if they are not then relieved, I advise some surgical means, especially in younger women.

Question: Doctor, what suturing would you use?

Dr. Kohlmann: Chromic catgut. I have never used anything else.

APPENDICITIS—HAS THE LAST WORD BEEN SAID ABOUT IT?*

By W. Lowndes Peple, M.D., F.A.C.S.,
Associate Professor of Clinical Surgery, Medical College of Virginia.
Richmond, Virginia.

There died last year in the registration area of the United States 7,648 people from appendicitis. When it is remembered that less than 65 per cent of our population is under

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

registry, the total number of deaths for the entire country would be considerably over 10,000. In Virginia there were 137 deaths from this cause. In Richmond there were 32 deaths, five more than from typhoid fever.

It furnishes the general surgeon with from 20 per cent to 30 per cent of his daily work. The discussions of kinks, veils, bands, and short circuits have crowded it off the programs of our societies until the subject is almost new again.

If further excuse were needed for the presentation of this paper, I will be frank, I dearly love to talk about it.

Modern sanitary science is driving many familiar diseases into the backs of our textbooks. Unless someone curtails the power of our local health board, our college will have to send its classes out of Richmond to study typhoid clinically. But appendicitis is essentially different. It will always be with us, and it will always present a peculiar personal problem, a problem to be fought out by three individuals, the patient, the physician, and the surgeon. It cannot be legislated against or dealt with by commissions.

When I began my hospital service seventeen years ago, conditions bearing on every phase of this disease were little short of chaotic. Good men in the profession preached against operative treatment. Many of the laiety denied its very existence. The cases that came were frightful and the mortality was high.

Three broad avenues of improvement, the first education, the second operative, and the third post-operative, stretched away to what is now the present.

The object of this paper is to contrast the past with the present, to look back over our work, to see what we have accomplished, to see if our full duty has been done, to find out if possible if we have come to the ends of the roads.

Educationally.—When we contrast the changed attitude of the public to this disease we are inclined to think that the battle has been won. The old fight with the family is feeble or absent, the plea for time less insistent. Laymen are constantly making correct diagnoses on themselves and members of their families. Not long ago a woman took me aside and told me that what frightened her most in her sister's case was the sudden stopping of the pain. Think of this seventeen years ago! When we consider instances like these and think of the bettered conditions as a whole, we are inclined to believe that the last word has been said, and thereby draw false conclusions. A business man may declare that he has had a most successful year, but when the books are balanced and the inventory taken, he is astonished at the result.

Since I started to work I have kept careful records of all my cases, which now number 350. When I came to tabulate my facts—to take my inventory—I, too, was astonished at what it showed. Astonished at the number of bad cases, and disappointed with the progress made from one group to the next.

In the first 100 cases, 39 were drained.

For diffuse peritonitis	21
For abscess	15
For safety	3

In the second 100 cases, 36 were drained.

For diffuse peritonitis	14
For abscess	18
For safety	4

In the third 100 cases, 28 were drained.

For diffuse peritonitis	11
For abscess	12
For safety	5

In the last 50 cases, 13 were drained.

For diffuse peritonitis	3
For abscess	7
For safety	3

Thirty-three per cent of all cases, and 66 per cent of all acute cases had to be drained.

The total number of attacks recorded for the 350 cases was 855. One hundred and seventy-one cases reported but one attack, leaving an average of 4 attacks each for the remaining 179 cases. It took an average of

4 warnings each to drive these 179 cases to the table.

In the acute cases not drained, of which there were 60, an average interval of 33 hours elapsed between the earliest symptom and the operation. All recovered.

In the 15 acute cases drained for safety (and these include gangrenous, unperforated cases with free turbid fluid) an average of 37 hours had elapsed between the earliest symptom and the operation. All recovered.

In the 49 cases with diffuse peritonitis, an average of 67 hours had elapsed between the earliest symptom and the operation. Twelve of these died and 5 of the 12 were children.

In the 52 cases with abscess, an average of 142 hours had elapsed between the earliest symptom and the operation. Three of these died.

There were 174 interval, subacute and chronic cases. There was 1 death; I may say catastrophy. A death on the 9th day in a clean case from pulmonary embolism.

There were 16 deaths in the 350 cases, or about 4 per cent.

While the total number of cases reported is relatively small, the facts deduced are none the less significant, for there are doubtless hundreds of other operators with similar figures, making an aggregate that is quite formidable.

In view of such figures, one-third of all cases and two-thirds of all acute cases drained, have we done our full duty in an educational way?

Teaching consists in receiving as well as giving knowledge. A teacher's work is not done until he is dead. Should we not study our own records more closely, take our inventories oftener, and talk and preach early operation at every opportunity? We have not come to the end of this road.

From the standpoint of operative technique.—The improvement has been more in the dissemination of knowledge than in the advancement of knowledge. Most all men now do well what was formerly done by a select few. In short, the gain consists in doing less, gently, quickly and systematically. Had not Ambrose Pare declared that the acme of surgery had been reached with the successful application of the ligature, I would be tempted to say that we are close to the end of this road.

Post-Operative Treatment.—Here the milestones are higher and more striking than on either of the other highways. The let-alone policy in uncomplicated cases, the judicious and humane use of morphia in all cases, the Fowler position, the Murphy method of using saline, the Ochsner principle of emptying both ends of the gastro-intestinal tract and quieting the middle segment, are all epoch-making. They have substituted an era of confidence for one of doubt, uncertainty and misgiving. Doubtless this road leads on.

Just as it is pleasing to turn from some big road into a little by-way, just so is it a pleasing thing when writing a paper to turn from the beaten pathways of convention, to shirk the routine and stereotyped order and to choose just such parts of a subject as have most interested you yourself, and to hope that your hearers may at least be of the same way of thinking and that you have at least secured their sympathy if not their interest.

Causative Factors.—I am convinced that attacks of appendicitis are often precipitated, if not actually caused, by indiscretions of diet. I have not made it a matter of record, but it has happened too often in the cases that have come under my observation to be a mere coincidence. We have all seen it, plum pudding, fruit cake, Christmas, Thanksgiving, peanuts, watermelon. It comes too often for chance.

If this view is correct, its importance cannot be overestimated, for if over-eating is recognized as a cause of appendicitis, such a history would arouse suspicion, instead of establishing a sense of security.

If there are any who decline to accept this view they will certainly accept as a comparison that a belly ache from over-eating is no alibi for appendicitis.

Again, the frequency with which attacks of

appendicitis occur at the menstrual period seems far too great to be a matter of mere coincidence. That the congestion incident to menstruation can precipitate an attack of appendicitis is in no way illogical. That failure to differentiate appendicular from menstrual pain may prove disastrous is too clear to call for emphasis. If we look upon menstruation as a possible cause of an attack of appendicitis rather than as an explanation of obscure abdominal pain, we will doubtless make fewer errors in diagnosis.

The misplaced appendix is a troublesome factor in obscure cases that should be ever borne in mind. When it hangs over the pelvic brim it may give low lateral or low median pain with neither pain nor tenderness over McBurney's point. Rectal or vaginal examination may here be most helpful. A high postcaecal appendix may simulate pyelitis or nephritis so closely that a microscopic examination of the urine alone will put us on the right track by eliminating the kidney.

Appendicitis in Children.—We seem to have gotten about as far in the diagnosis of appendicitis in children as we had with adults fifteen years ago. I have never seen a child under 5 years of age operated on for appendicitis and closed without a drain. My records show 34 of my cases, or about 10 per cent, were under 12 years of age. Twenty-seven of these were acute and 24, or 89 per cent, were drained.

Fortunately the disease is relatively infrequent in children, but unfortunately the mortality is relatively high in advanced cases. Here is a field rich in possibilities, the working out of a proper symptomatology of appendicitis in children. It is true that the symptoms are vague and obscure as we view them now, but there must be recognizable signs accompanying such grave, acute processes if we were only skillful enough to discern and interpret them.

At any rate, it is not the child's fault and the child is not going to change. If there is to be improvement, and God knows it is need-

ed, it has got to be in us. If we watch for it during and immediately following tonsillitis, and the acute exanthemata, especially measles, if we strip all cases of gastro-intestinal disorders and examine the abdomen, it will at least be a beginning. Finally, if we treat all cases before and immediately after operation with alkalies to guard against or to counteract acidosis, we will have more recoveries and easier convalescences by removing a frequently dangerous factor in these cases.

Appendicitis in the Negro.—That appendicitis is relatively infrequent in the negro is beyond question. The difference, however, is more apparent than real, because the negro is a stoic and bears pain too well for his own good in this malady. Of the 350 cases only 30 were negroes. Twelve of these were acute, and 10 of the 12, or about 83 per cent, were drained. The percentage of drainage cases is but little short of that in children, for the reason too obvious to mention to this audience, that negroes are just children grown up.

Pregnancy is not a bar to operation in appendicitis. Among those reported there were 5 pregnant women; 4 were subacute and 1 had diffuse peritonitis. Two were at 2 months and 3 at 4 months. All recovered and none miscarried. I have never seen a miscarriage follow appendectomy.

Appendectomy for digestive disorders is gradually finding its proper place. Failure to relieve symptoms has led to a more careful selection of cases for operation. When we see the very bad cases of appendicitis with no history whatever of indigestion, when we accidentally discover obliterated, adherent appendices in the course of other operations, giving no digestive symptoms, it makes us circumspect, to say the least. A tendency is developing to confine digestive appendectomies to cases with some symptom referable to the appendix or to perform this operation through an incision large enough to inspect other lesions which may be present.

Delayed Cases.—The problems surrounding the disease are too complex ever to hope for

the complete elimination of these late cases. There may be fewer of them, but we have got to deal with them as they are. What can we do to save more of them?

Abscess Cases.—I believe that opinion as to this class of cases is fairly well crystallized. We open the abscess, remove the appendix if it is readily accessible, drain and quit. We watch for other abscesses, watch for pneumonia and pleuritic effusions, for pyelitis and phlebitis. If conditions are favorable we remove the appendix before the patient goes home. The mortality is high, but it is getting better all the time.

Diffuse peritonitis, the bad cases, three, four or five days old—what is best to do with them?

All that we have accomplished in an operative way is in doing less than we used to do. We have stopped eviscerating them, stopped flushing them, stopped mopping them, stopped traumatizing them, stopped multiple incisions, and multiple drains, many have stopped the entire operation and substituted the Ochsner treatment for it. In the few cases that I tried this plan, and in the few that I watched in the hands of others, the results were so unfavorable that I had not the courage to try more.

If we can stop the use of the general anaesthetic and substitute satisfactory local anaesthesia, we will in all probability make a distinct advance. I have watched these cases come out of a quick, clear cut, deft, operation shocked as though they had received some frightful blow, a depression seemingly out of all proportion to the traumatism, allowing for the patient's lowered vitality and the rapid increase of absorption. I have always instinctively felt that this was largely the anaesthetic and that its elimination would be a material gain.

The choice of drainage material in these cases is still largely a matter of individual taste, some operators employing one and some another. For the past five years several of the hospitals of this city have been using for this purpose a drain which I first described in the J. A. M. A., May 7th, 1910. It consists of a split rubber tube enclosing rubber dam infolded and stitched securely in place, making a number of enclosed capillary drains which give free access to fluids at all levels. It drains, it does not clog and it comes out easily. It has been tested so thoroughly and has proven so satisfactory that I take the liberty of presenting it for your consideration.

It is in the after treatment that the brilliant achievements have been attained. When the operation is done, so sure are we of what next ought to be done that the after treatment is usually thus graphically inscribed on the order book: F. M. O. S., Fowler position, Ochsner principle, Murphy saline, Spartein as described by Dr. Stuart McGuire.

Gastric Lavage.—Of all the advances made in the after treatment of these delayed cases none is so spectacular, none has made so profound an impression on me as the use of the stomach tube.

When we wake up at night and think of the long row of good fellows, way back in the old days, who hiccoughed a bit, looked sadly, reproachfully at us, gulped up just a mouthful or two of black vomit; the fellows who slowly turned yellow, swelled up and died it just makes you sick at heart to think that they are not here because we hadn't brains enough to wash their stomachs out. I do not know who taught us to do it, or whether credit is due to more than one man, but I had rather the recording angel should write that on the credit side of my ledger leaf than any other one thing I know.

In conclusion I would say that we may not have come to the ends of the roads, but we are well on the way; but whatever lies ahead let us remember that there is a duty behind, to keep up the old roads and to make easy the travel of those who are to follow.

1209 *W. Franklin St.*

DISCUSSION.

Dr. Floyd W. McRae, Atlanta, Ga.: There is no question but what indiscretions in diet are to be looked upon as a large causative factor in appen-

dicitis. We should investigate carefully all cases of so-called acute indigestion, as well as other digestive disturbances. We should be on the lookout for surgical diseases, especially appendicitis. In young girls a large number of cases of appendicitis are precipitated by the menstrual flow. Menstruation is one of the misleading things. We are misled at the menstrual period especially by a low-hanging appendix. There is more muscle spasm in appendicitis than in tubal and ovarian diseases, and the tenderness is nearer the so-called McBurney point. Appendicitis in pregnancy, so far as pregnancy being a bar, I think it is one of the very strongest indications for operation. I have seen disaster follow, over and over again, in the wake of cases of chronic appendicitis that have gone on and become pregnant, and through bad advice or otherwise, declined to have an operation done. I have seen one case of abortion and death where I did an operation for appendicitis. That was a delayed case, and I think the result would have been the same if I had not operated.

We are going to have a larger mortality in children, because they do not bear the disease well; because we cannot get parents to consent to operation, and then because we are not careful enough to make early diagnoses of acute appendicitis. We are so accustomed to seeing children with high fevers get all right after a free purge that we become careless. I have seen appendix after appendix explode after a drastic cathartic, just as though a firecracker had been set off inside. There is no more dangerous remedy in acute appendicitis than drastic purgatives. Notwithstanding this, there is a prevalent opinion that every acute abdominal condition requires purgatives.

On last Monday afternoon, just before leaving Atlanta, I was called to see a man suffering with acute appendicitis, taken sick the preceding Friday night. Saturday morning he took a dose of castor oil; Saturday afternoon three compound cathartic pills; Saturday night his landlady advised three grains of calomel; the following Sunday morning about six seidlitz powders were taken, two at a dose, two hours between doses. A dose of salts was given Monday morning. His temperature was then 102, pulse 110; all the physical signs of a high retro-cecal appendiceal abscess. This case was operated on the following day by one of our best surgeons, and now, December 14, seems to be slowly recovering after having developed a sub-hepatic abscess and later a septic empyema.

Dr. Stuart McGuire, Richmond, Va.: I am embarrassed at being called on to speak as I have just entered the room and did not hear the paper. I see on the wall a drawing of the drainage tube I have used in my work for the last six or eight years. The drain was designed by my associate Dr. Peple, and is known locally as the "Peple drain." It consists of a split rubber tube with folded rubber dam strips in the interior. I formerly used a split tube containing gauze strips but I found the drain soon became choked with lymph and often adhesions occurred between the gauze and the abdominal viscera which made its removal difficult, painful and sometimes dangerous. I have found the Peple drain free from this objection and I now use it to drain the peritoneal cavity in all cases of diffuse peritonitis. I am glad Dr. Peple has called attention to this drain, because I believe its general use is very desirable.

Dr. R. B. Williams, U. S. Navy, Norfolk, Va.: It seems to be very well established that the less we do for these cases of acute appendicitis in the way of irrigations and moppings the better. If you take out the appendix as quickly as possible and put in a drain you have done all you can for the safety of your patient. In Norfolk we have had more than 300 consecutive cases of appendicitis in the past four years, and there has not been a death. That may be a question of luck. We have simply used a drainage tube, in all cases requiring drainage, without gauze, just a fenestrated rubber drain, and have always removed the drain in thirty-six hours. Of course the danger in using a drainage tube is that if it is left in it will cause necrosis of the intestine, but if it is taken out within twenty-four hours, and never left in longer than thirty-six hours, we do not have any trouble with it. Our results seem to be excellent.

One phase of chronic appendicitis not touched on is the type described by Lane as intestinal stasis. These stasis cases give symptoms very closely resembling chronic appendicitis but are not appendicitis at all, but cases of chronic obstruction, either caused by the condition described by Lane or produced by "kinkings" or angulations from adherent appendices. I think the more we see of these cases and the more carefully we study them the less frequently will we diagnose chronic appendicitis, but we shall find that there is either an ileo-pelvic band of Lane or some other definite obstructive factor that causes a partial obstruction of the intestinal contents, and that it is the obstruction that causes these symptoms, and not chronic inflammation of the appendix.

Dr. Southgate Leigh, Norfolk, Va.: Gentlemen, the chair has given me permission to say a few words on drainage. I asked the house surgeon of a large Northern hospital what kind of drainage was used there in diffuse peritonitis cases, and he told me nothing more than the cigarette drain. Since that time I have inquired around in many directions and find that good surgeons even in cases where there is a large amount of pus use cigarette drains. I wish to say a few words regarding the method I have been in the habit of using for a number of years. Every case of appendicitis should be elevated at once and kept on the right side, and particularly should the patient be kept in that position during transportation. The reason is obvious.

In regard to the incision, we practice what we call the transverse incision—an incision more or less transverse from the edge of the rectus outward, separating the fibres of the internal oblique and transversalis, and in order to bring the drainage as far out as possible we sometimes cut some of the outer fibres of the internal oblique. When we are closing up the wound, we close up the inner part of the wound completely. That prevents, in a large proportion of our cases, any hernia, even with extensive drainage.

In suppurative cases, with a small abscess, we always pack away the intestines to prevent them

getting soiled, and to keep pus from the free abdominal cavity.

In the diffuse suppurative peritonitis cases I wish especially to speak of drainage. This tube mentioned by Dr. Peple is certainly very ingenious, but does not give enough drainage. We use tubes with large walls, large enough to give free drainage, and soft to prevent doing any damage, and thick enough to prevent kinking or bending. We insert one of those tubes down into the pelvis, another small one towards the liver, and sometimes a third one towards the middle line, although we usually put in gauze packing at the original site of trouble.

Then we elevate our patients, elevate them high and on the right side, and everything runs out through those tubes. We insert a wick of gauze into each tube. We use continuously by rectum a large amount of solution of one kind or another—sometimes salt, sometimes sugar, sometimes soda. This increases, certainly, the drainage, which the cigarette drain can hardly take care of. We not only put gauze wicks down into these tubes, but we have them changed twice a day and use suction to bring out any amount of fluid present. These tubes have given us such excellent results I thought it best to mention them to you.

In our desperate peritonitis cases we find the nitrous oxide oxygen adds nothing to the shock, saves time and prevents nausea.

A NEW METHOD IN DISPOSING OF THE STUMP OF THE APPENDIX AFTER ITS REMOVAL.*

By J. Hugh Carter, M.D.
Memphis, Tenn.

I wish to state that this is practically the same paper I read before the Tri-State Medical Association in Memphis two years ago.

In presenting this paper I use the word new in so far as I am able to judge from the literature at my disposal.

At the beginning of my medical and surgical career as an interne in the Memphis City Hospital, where I had the opportunity to see and to assist in many operations upon the appendix by many different surgeons and carefully watching the results of the operations, I could not believe the method then used, and I might say, in use now, in disposing of the stump of the appendix, was an ideal one, either from a surgical standpoint or of the patient. Therefore I began to study just what was done with the stump of the appendix anyway; and to my surprise I found that it was only buried or covered over by the serosa of the gut by the use of a purse-string suture, reinforced by the application of a few Lembert's sutures, not inverted into the bowel, as I had been taught and led to believe, but only covered by the serosa, there to harbor infection which, in the writer's opinion, is responsible for a great number of the cases of peritonitis, abscess formation and fecal fistula.

How often has the surgeon had the above to happen and wonder why? When the appendix was removed there seemed to be no infection without the appendix, not stopping to think there were plenty of bacteria in the remaining part of the appendix even if the cut end had been touched with carbolic acid and this source of infection was only covered or housed in, so as to afford the bacteria plenty of nourishment, as you would cover a grain of corn you wished to germinate. It would be much better to leave the stump uncovered, as do some surgeons, with a suture tied around it, so the peritoneum could take care of the infection left in the stump. I have stated the old way of treating the stump of the appendix was merely burying or covering it over with serosa of the gut. (Here I wish to demonstrate on this gut that fact.) So you see by actual demonstration the stump is only covered over or buried under the serosa.

Now, gentlemen, if I can show you a way or method by which one can really invert the stump of the appendix into the bowel, do you not believe it would be an ideal one? This is what I believe I have.

TECHNIQUE.

The appendix is caught near the base with a forceps and clamped, and if not ruptured, or liable to, it is left until suture is inserted, otherwise it is cut off just above the clamp and removed. Then we take a suture (catgut preferred, No. 2), in a straight or curved round

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

needle, inserting it into the bowel about one-fourth of an inch from the base of the appendix and extending about one-fourth of an inch beyond the base of the appendix, the needle running parallel with the base of the appendix when it is brought out through the bowel, the suture including about one-third of the base of the appendix. Two more stitches are taken in like manner around the appendix causing the sutures to form a triangle around the base of the appendix. Now as the sutures extend within the bowel, the assistant with a pair of thumb forceps pushes down upon the appendiceal stump, therefore inverting it into the bowel, when traction is made upon the sutures and tied, as I have demonstrated upon the gut. You can easily see here the stump is inverted into the bowels when the stump is grasped and pushed through the triangular space formed by the sutures, bringing the serosa together.

After the suture is tied it is my custom to place two or three Lembert's sutures over same to reinforce at the same time cover over the small bit of catgut that is without the serosa. There is only one possible fault with this method, advanced by some, in that the sutures extend into the lumen of the bowel, thereby causing infection through the sutures. But it seems to me there is not any more danger than in closing a wound in the intestines by the through and through method, as all surgeons do now.

I will say here, I have used this method in over fifty cases in the past three years and have had only one complication and not a death.

THE ADVANTAGES.

1. The operation can be done much quicker, therefore save time when time is at a premium.

2. The stump is inverted into the bowel and any infection within the stump will drain off through the bowel.

3. For this fact we are not near so liable to have a peritonitis, abscess formation and fecal fistula to form after the removal of the appendix.

I trust each and every one will feel at liberty to discuss this paper.

DISCUSSION.

Dr. Joseph Graham, Durham, N. C.—Mr. President, I think the most important consideration in dealing with the stump of the appendix is not only to prevent any peritoneal contamination and leakage, but also to always be certain to prevent hemorrhage, I had done a number of appendictomies before I had a hemorrhage from an operation for appendicitis. Finally I did have one. The patient was one of the easiest cases that I ever operated upon. In about six hours afterwards the patient had a collapse and I am sorry to say I did not realize what had happened to that patient. The patient rallied and the condition became good, and in the night there was a second collapse, the abdomen was opened and my patient died.

If the work is done in a hospital and not in a private home, we remove the appendix with a cautery knife between two clamps, and always ligate the appendix with a double thread. Since having that case of hemorrhage I pay as much attention to tieing the appendiceal artery as I do the uterine.

This method of Dr. Carter's appears to be very ingenious, but it does not appeal to me. I think that we ought to follow simplicity in surgery, and I think that the safest method of dealing with the appendix stump is ligation of the appendix and of the appendiceal artery.

OBSERVATIONS ON PITUITARY EXTRACT IN OBSTETRICS.*

By J. M. H. Rowland, M.D.,
Professor of Clinical Obstetrics, University of Maryland,
Baltimore, Md.

Probably nothing has created a more widespread interest in the obstetrical world during the last two or three years than the constantly growing use of pituitary preparations which were first recomended by Bell in 1909.

The easy administration, the very satisfactory results in properly selected cases, the apparent harmlessness of the drug, the fact that one can find help in its administration without the necessity of sending for another physician, the apparent saving of many patients from operative delivery and particularly the almost immediate termination of labor after hours of tiresome waiting by the

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

physician and painful and exhausting labor for the patient—all make a very strong appeal to the general practitioner, because he is the man who most needs just such an addition to his obstetrical armamentarium.

Just in proportion, however, to its popularity is its use becoming dangerous. Its harmlessness is more apparent than real, and just as in the case of every other drug which becomes popular, the indications for its use, which are now fairly firmly established, are being ignored and we are already beginning to hear warnings against improper use. To these I wish to add my warning and to suggest what I believe to be the proper rules to govern its use.

Physiological Action.

Howell,[1] Schafer and Vincent[2] showed that the drug would cause a rise in blood pressure and slowing of the heart beat. Schaefer and Herring[3] later demonstrated that it would cause dilatation of the renal vessels and internal secretion of urine.

Howell states the active principle will cause dilatation of pupils and stimulate musculature of uterus, intestines and bladder.

Herring[4] claims that there is an internal secretion from cells or the pars intermedia which undergo hyaline degeneration and are discharged into the third ventricle.

Cushing and Goetsch[5] state that the active principle, pituitrin, is present in the cerebro spinal fluid.

The action of the drug upon the uterus continues usually for about 60 to 90 minutes. Quigley[7] says 90 minutes and Albrecht[8] states that the action continues one hour. Vogt[9] reports contractions lasting 96 minutes. Several writers, among whom is Edgar,[10] claim that the action continues for about 30 minutes. This is too short, as careful observation will show. Our observation is that the contractions last from about 30 minutes to about two hours or longer, with an average duration of about one hour.

The uterine contractions are increased in intensity and the interval diminished. The effect of the drug is first shown, in cases of labor, usually in less than ten minutes after administration.

At first, in the experimental induction cases, the contractions, while strong and easily demonstrable both by inspection and palpation, did not usually cause the patient to have any sensation of pain, for the first thirty or forty minutes; indeed, the first dose did not usually give any sensation of pain. In the successful cases it was not until the full effect of the second dose was seen that the patient began to complain as if she were in normal labor, and in no case was the sensation of pain increased in proportion to the degree of contraction. What appeared to be, from inspection and palpation, quite forcible contractions elicited little or no complaint from the patient, even when the contractions were sufficient to cause very considerable dilatation of the cervix.

This was true, but to a less extent in cases in the second stage. Great increase in strength and efficiency of contractions did not seem to be accompanied by a relative increase of the patient's suffering, though in one or two cases the reverse was true, the administration of the drug causing such strong contractions that the patient grew quite hysterical because of the increase of pain.

The efficiency of the drug to start or to increase uterine contractions is certainly very marked. In no case did we fail to excite or increase contractions of the uterus, except where the uterus was exhausted from long continued efforts to deliver. This seems to be the only condition in which the drug will not cause contractions. In one of our cases—No. 18—we were possibly saved an unfortunate accident because of failure to stimulate the uterus already exhausted in an attempt to engage an unrecognized hydrocephalic head—a case in which, of course, the use of the drug was positively contraindicated.

The contractions in none of our cases would be termed tetanic in character, but they were sufficiently continuous and severe in some cases to have caused us some concern had there been obstruction or diseased condition of the uterus walls.

The blood pressure is increased in nearly every case, only a few cases failing to show some increase. There seems to be no relation between the intensity of pains set up and the increase in the blood pressure. Owing to the fact that many of the cases in which an early termination of pregnancy and labor is desirable are pre-eclamptic, eclamptic or nephritic, usually with an increase in blood pressure, we thought it interesting to determine just how much the blood pressure was increased and how long the increase was maintained. To this end we give, with several of the reported cases, an accompanying table showing changes in blood pressure and pulse. In two cases a very rapid increase in the blood pressure was shown after the second dose. The increase is usually gradual for about twenty to thirty minutes, with a slow drop to the pressure present at the beginning of the experiment in about one hour.

The maximum increase was forty points after a second dose—the average increase being about eighteen to twenty-four points.

There seems to be abundant testimony in favor of the harmlessness of the drug from the standpoint of toxicity. We are as yet unable to admit this, though the experiments on animals would seem to show that large doses may be given with impunity. Lescohier and Closson[11] claim that the toxicity of pituitrin in therapeutic doses can practically be ignored. We have, however, had some experiences which we cannot explain in any other way than by blaming them on the effect of the drug. For instance, in one of our first cases (No. 3), in which an attempt was made to induce labor, there was nausea and vomiting and the attempt at induction failed. Two weeks later, when the patient went into labor spontaneously, she was given another dose of the drug to accelerate the contractions. She again had exactly the same nausea and vomiting and collapse—plainly a case of idiosyncrasy. Another case (No. 6) showed such irregularity of pulse rate that the experiment was discontinued. Another case (No. 23) showed the most remarkable collapse immediately after delivery. In the absence of hemorrhage or any other apparent reason, we could not help wondering whether the drug had any influence in causing it.

In each case where there was a possibility of the unfavorable symptoms having been due to pituitrin, only one dose had been given. The greatest amount received by any patient was five doses of 1 c.c each, given over a period of twenty-four hours.

Concerning the Induction of Labor.

We must reconstruct our attitude in regard to the action of pituitary extract in this feature of our work. During the last two years it has been quite customary to say that the pituitary preparations alone will not induce labor. Gottfried[12] found it efficient and Fischer[13] found it efficient with vaginal and cervical tampons, but states that it does not commend itself to him. Greenbaum[14] found it of little value. Humpstone[15] declares it inefficient. Edgar[16] claims it has no value. Stein[17] was successful in two cases. Reuter[18] failed in three cases. Hirsch[19] found it impossible to excite contractions even at the end of pregnancy. Schiffman[20] was successful in three cases. Eisenbach[21] found it had no effect. Ehrenfest,[22] Pryor,[23] Harrison, Marx and Vogt[24] all find it efficient in combination with balloons or packs, rupturing of bag of water or dilators in cases of placenta praevia, eclampsia, etc. In a previous paper[24] I stated that it would not induce labor and cited three cases. Further experimentation has shown me that these three cases might have been delivered, and that many of the experiments must have been conducted with inferior preparations of the pituitary gland.

I repeat the former cases for the purpose of comparison.

Case I. Maryland Lying-In Hospital. Hosp. No. 6353. M. S., black; age 32. II para, vertex presentation, L. O. A. position, head not engaged, no dilatation of the cervix. February 7, 1913 was given two injections of pituitary extract, 1 c.c. each, with interval of one and one-half hours. At the end of two hours from the first injection, the cervix was dilated about two fingers. Contractions were so slight as to be scarcely perceptible to patient, causing little discomfort, but perceptible by palpation of the fundus. No further dose was given and all contractions ceased. The administration had no effect upon the maternal pulse rate, blood pressure or temperature. The fetal heart increased about five to eight beats per minute during the two hours in which the pituitary extract was active. On February 22, 15 days later, case was delivered spontaneously after perfectly normal labor of 10½ hours. Child living, weight 8 pounds and 3 ounces, puerperium uneventful.

Case II. Maryland Lying-In Hospital. M. R., black; age, 21. II para, overdue, slight general contraction of pelvis, vertex presentation, L. O. A. position, cervix soft, admitting tip of index finger. February 7 1 c.c. pituitary extract given at 9:25 p.m. Noticeable contractions occurred at 9:33, 9:41, 9:52, 10:15, 10:25 p.m. During this time temperature normal, pulse rate and blood pressure slightly increased. At 10:25 a second injection of 1 c.c. given. The pains slightly diminished and contractions were not noticeable after 12:25 a.m. Three hours after the administration of the first dose all pains ceased. The blood pressure returned to the point from which it started. Fetal heart in this case was not influenced. An examination of the cervix showed, however, dilatation of the size of a silver dollar. Three days later, February 10, bag of water ruptured and pains began immediately, labor terminating in one and one-half hours. Child living, weight 6¾ pounds, no asphyxiation, no hemorrhage, puerperium uneventful.

Case III. Maryland Lying-In Hospital. E. F., age 20; I para, white, due March 4. Pelvis normal, vertex presentation, L. O. A. position, fetal heart 144. For several days patient had irregular pains [illegible] backache at intervals of 15 or 20 minutes. This would last for two or three hours and [illegible] and repeating the performance. One c.c. of pituitary extract with 1-10 [illegible] given at 10 p.m. March [illegible] no [illegible] fetal heart 140. Soon [illegible] were considerable [illegible] At 10:30 pains were 6 minutes [illegible] increasing in frequency until [illegible] and but [illegible] At 1 o'clock [illegible]

greater. At 12 o'clock cervix, which was not dilated at the beginning of experiment, was dilated about two fingers, but not thinned out much. Pulse increased to 90, blood pressure increased to 116. Pains ceased shortly after 1 a.m.

To these I add five more cases:

Case IV. Oct. 22, 1914. M. C., age 17; black; 1 para. Full term. Last menstrual period last week in December, 1913.

Time a.m.	B. P.	F. H.	M. H.	Temp.	Uterine Contrac.
1:15	104-138	145	88	98	12.50
1:00	100-124	145	84	99	1.00
1:15	100-124	145	88	99	1.13
1:20	Pituitrin 1 c.c. given in gluteal muscle				
1:30	98-150	140	80	99	1.35
1:45	110-152	156	88	98.3	1.55
2:00	92-146	160	76	98.2	1.59
2:15	116-142	144	88	...	2.08
2:20	Pituitrin 1 c.c.				
2:30	88-138	142	96	98	2.16
2:45	82-142	144	80	98	2.56
3:00	82-142	148	84	....	3.10
3:15	88-136	144	80	98	3.25
3:30	92-132	144	80	98	3.40

Cervix not affected. No pain felt

Case V. L. H., black, single, age 20; primipara. Pelvis normal. Last menstrual period middle of January, 1914. On examination seemed to be full term. Normal pregnancy.

Time a.m.	B. P.	F. H.	M. H.	Temp.	Uterine Contrac.
12:45	66-132	140	76	97.3	1.07
1:00	66-132	146	78	98.2	1.20
1:15	118-132	146	78	98.2	1.25
1:20	Pituitrin 1 c.c. given in gluteal muscle				1.32
1:30	70-132	138	78	98.3	1.40
1:45	90-136	134	72	98.3	1.47
2:00	92-134	146	68	.	1.58 1 min.
2:15	88-144	134	66	98.3	2.00
2:20	Pituitrin 1 c.c.				
2:30	60-142	132	66	98.2	2.04
2:45	70-142	138	68	. .	2.09
3:00	86-132	138	72	98.2	2.13
3:15	72-122	136	74	. . .	2.15
3:30	62-124	138	72	.	2.16
3:45	66-118	136	70	. .	2.17
4:00	66-124	134	74	. .	2.18
4:15	68-124	136	72	.	2.21
					2.23
					2.25
					2.26
					2.28
					2.31
					2.33 30 sec.
					2.34
					2.35
Cervix obliterated — dilatation of extreme os still about to admit one finger at 4:15 a.m.					2.36 40 sec.
					2.38
					2.40
					2.41
					2.43 felt pain
					2.45
					2.47
					2.49
					2.50
					2.51
					2.55 90 sec.
					2.58 inc. pain
					3.00
					3.02
					3.04
					3.06
					3.08
					3.10
					3.11 23 sec.
					3.12
					3.15

And every two minutes until 4.00, when contractions gradually grew less frequent and pain stopped.

This patient was delivered spontaneously of a full term child four days later.

Case VI. M. G., white, primipara, age 14 years. Last sickness January 10, 1914. S. P., 25; Cr., 27; Troch., 30; Ext. Cong., 19. Cervix not dilated, no pains, head appears large.

Time a.m.	M. H.	F. H.	B. P.	Uterine contract.
2:45	84	132	122	
3:00	92	134	122	
3:15	98	135	125	
3:15	1 c.c. pituitrin given in gluteal muscles			
3:30	106	135	125	3.34 slight, no pain
3:45	108	136	132	3.45 slight, no pain
4:00	100	136	132	3.56 slight, no pain
4:15	98	134	132	4.16 slight, no pain
4:30	120	134	132	4.36 slight, no pain
4:35	90	134	...	

Test stopped at 4:30 a.m., as patient's heart was very irregular, as was also the foetal heart. Patient's pulse would jump from 80 to 140 per minute, and the foetal heart skipped beats twice a minute. Uterus at time experiment was stopped was not completely relaxed—seemed harder and firmer than before the experiment was started, it being practically impossible to outline the child. Cervix was not dilated at the start, and was in the same condition after we stopped. Temperature was normal throughout, ranging from 98 to 98.2.

Case VII. M. C. Same patient as in No. 6.

Time a.m.	B.P.	F. H.	M. H.	Temp.	Uterine contract.
12:45	84-138	145	85	98.2	12.45 slight
1:00	120-138	130	68	98.2	1.10 contr.
1:15	120-138	130	68	98.2	1.20
1:20	1 c.c. pituitrin given in gluteal muscles				1.30
1:30	98-142	130	68	98.2	1.33 harder &
1:45	116-144	128	64	98.2	lasting
2:00	114-132	136	88	98.4	1.36 longer [illegible]
2:15	88-144	144	74	.	1.39 sec.
2:20	Pituitrin given, 2d dose, 1 c.c.				1.42 hard, last-
2:30	120-152	144	60	98.2	ing a full
2:45	114-164	Not Irreg.			1.46 com- fol-
3:00	126-160	Irreg.	56	98.2	lowed by
3:15	120-162	Irreg.	64		1.57 partial re-
3:30	118-160	Skips 6-140			laxation,
3:45	124-156	Skips 140			2.01 followed
					by the
					cont.
		Skips Irreg.			2.07 A period
					2.09 next sec.
					11

4:00	114-146	Skips 50-140	2.15	
			2:20	
			2.22	
			2.25	
			2:27	
			2.30	Causing pain to patient.

From 2:30 on there was a permanent hardness to uterus, with sensation of pain to patient every three minutes.

At 4 a.m. patient was examined and the internal os was found to be obliterated and the external os was dilated to admit one finger. Shortly after the membranes were ruptured to make sure that the patient would go into labor, as she was over term and the child was comparatively large for her pelvis.

After 4 a.m. pains took on the character of ordinary labor pains, which continued until 9 a.m., when the patient was delivered. Maternal pulse was irregular for two hours after delivery. Child not asphyxiated. No hemorrhage.

Case VIII. E. N., white; age 22, 1 para. Full term. Pelvis normal, L. O. A. position.

Time	Pulse	Blood Pressure	
11:03	90 Nervous	130	Cervix admit 2 fingers
11:09	Pituitrin administered	M. H. 80	B. P. 140
11:14	80	140	
11:19	70	140	
11:24	82	145	
11:29	84	150	
11:34	80	147	
11:39	82	142	
11:44	80	140	
11:49	Contr. seem to have ceased	80	130
11:54	82	125	
11:59	82	125	
12:12	Second dose pituitrin given		
12:17	80	128	
12:22	76	128	
12:27	76	128	
12:32	78	122	
12:37	78	120	
12:42	80	125	
12:47	80	124	Cervix dilated about twice as large as at at beginning of exp.

Patient at 3:30 p.m. still having same contractions which are more intermittent and accompanied by sensations of pain.

Third dose at 4 p.m. with some increase in strength of contraction.

Fourth dose at 9 p.m. without much effect.

Fifth dose at 11 a.m. next day. Pains bearing down in character, but no definite labor pains set up. Experiment discontinued.

This patient was delivered spontaneously five days later, child weighing six and three-fourths pounds.

It will be seen that the cervix in Case No. 2 was dilated to a degree that should have suggested further doses, which would probably have delivered her. The third case had only one dose, but even that was sufficient to dilate the cervix to some extent. We are including cases Nos. 2 and 7 among the failures, though they probably do not belong there.

The following cases, all of which are quite recent, give quite different results:

Case IX. Maryland Lying-In Hospital; N. E.; age 20; colored; full term; I para; slightly generally contracted pelvis. 1 c.c. pituitrin given at 10.56 a.m. A record follows showing results in pulse, blood pressure, etc.:

Time	Pulse	Blood Pressure	Contractions
a.m.			
10:56	72	140	None
11:01	72	150	None
11:11	72	160	Present
11:16	72	160	Present
11:21	72	160	Present
11:26	72	164	Present
11:31	78	166	Present
11:36	72	164	Present
11:41	78	156	Present
11:46	72	140	Present
11:51	78	150	Present
11:56	72	140	Present
11:59	Second dose 1 c.c. pituitrin given		
p.m.			
12:04	72	158	Present
12:09	72	158	Present
12:14	72	150	Present
12:19	72	156	Present
12:24	72	150	Present
12:29	72	146	Present
12:34	72	144	Present
12:39	72	140	Present

Contractions were present after 11:10 a.m. They were definitely palpable and could be easily seen. No sensation of pain was admitted by the patient, but at the end of experiment she began to have a feeling of fullness and of bearing down just as at her menstrual periods.

Examination of cervix showed dilatation to about the size of a quarter. The discomfort continued with mild contractions all afternoon and night and the next day, with the patient having also some discomfort in the back. She was given another dose of pituitrin at 5 p.m. She immediately began to have several pains which were almost continuous, though not severe, and the child was delivered at 8 p.m. Child weighed 6½ lbs. No asphyxia, no hemorrhage. Puerperium uneventful.

Case X. S. T., colored, 1 para, 10 days over due, R. O. A. position. Has had no preliminary pains. Slightly generally contracted pelvis, examined at 11 a.m. Cervix admit one finger. One c.c. pituitrin given.

Time	Blood Pressure	Pulse
11:05	115	110
11:10	120	115
11:15	120	110
11:20	115	110
11:25	115	108

11:30	120	108	
11:35	120	108	
11:40	115	108	
11:45	118	108	
11:50	115	108	
11:55	115	100	
12:00 M.	115	108	
12:05	115	108	
12:10	Second dose 1 c.c. given		
12:15	115	108	
12:20	115	108	
12:25	120	108	
12:30	120	108	
12:35	120	108	
12:40	120	100	
12:45	115	100	
12:50	115	100	Cervix dilated much more than at beginning of exp.

Contractions started in 7 or 8 minutes, tonic in character. Patient felt a little discomfort, but no sensation of pain as in contractions instituted spontaneously. At 1 p.m. it was felt that the experiment would not be a success, and the students conducting it were allowed to go home, but at 2 p.m. the pains were continuing, and at 3:30 p.m. the nurse gave her an enema because she seemed to be having "regular labor pains." At 4 p.m., because contractions seemed to be less vigorous, 1 c.c. pituitrin was given, and the child was delivered at 6 p.m. The placenta followed in two minutes. No asphyxia, no hemorrhage, puerperium uneventful. At no time during this labor was there a sensation of severe pain.

Case XI. M. M., colored, age 25, 1 para, full term, R. O. A. position. Pelvic measurements: Sp., 22; Cr., 24; Troch., 29: Ex. Cong., 18. Cervix admit one finger.

Time a.m.		Pulse	Pressure
10:50	Cervix admit one finger	110 (very much excited)	138
10:55	Gave dose of pituitrin		
11:00	Contractions began	96	145
11:05		80	140
11:10		82	148
11:15		82	130
11:20		90	130
11:25		84	138
11:30	Foetal heart 150	84	138
11:35		80	130
11:40		80	130
11:45	Cervix admit 4 fingers	80	130
11:55	Gave second dose of pituitrin		
11:55		80	140
12:00	M. Contractions very strong, occur at intervals of 5 min	82	135
12:05		80	140
12:10		86	150
12:15		100	150
12:20		100	158
12:25		90	150
12:30	Foetal heart 150	100	150
12:35		96	142
12:40		96	150
12:45	Cervix admit four		
12:50	fingers		
12:55	Contractions not so frequent	90	150
1:00		90	145
1:05		90	145
1:10			
1:15	Third dose pituitrin		
1:15		100	138
1:20	Contractions increased	100	145
1:25	in frequency and	90	150
1:30	intensity	98	165
1:35	Foetal heart 150	98	165
1:40	Pains very strong	98	165
1:45		85	154
1:50		85	154
1:55		85	150
2:00	Foetal heart 150	85	150
2:05		100	150
2:10	Intervals of pains	96	150
2:15			
2:20	2 minutes		

Perineum began to distend at 3:10 p.m. Membranes ruptured artificially at 3:25 p.m. Child born at 3:45 p.m. Placenta separated and was expressed at 3:53 p.m. No asphyxiation (at no time during the experiment was the foetal heart influenced) no hemorrhage. Uterus well contracted.

There is no doubt that these cases should be counted as successful inductions of labor. While they were frankly experimental, they were cases which furnished a definite indication—slightly contracted pelvis at full term, with apparently no tendency to terminate pregnancy. They show that where it is desirable to terminate full term pregnancy, it is entirely possible to do it. Indeed, these last cases were so easy that we are wondering what was wrong with our first experiments.

It is quite probable that we are experimenting with a better preparation now than formerly. Some of the firms preparing the pituitary preparations frankly admit that the preparations of a year or two ago were inferior to that which they are now placing on the market.

In the First Stage of Labor.

The most difficult cases concerning which we must decide are the first stage cases. Failure to dilate the cervix and to advance and engage the head are frequently due to causes which make the use of pituitary preparations dangerous. Marked disproportion between the head and pelvis furnishes probably the greatest contraindication. The pains, while not tetanic, are sometimes quite continuous and very violent and in the presence of a thinned out lower uterine segment, would certainly be dangerous. One should be quite certain that the disproportion is not marked. In proper cases, a head which has resisted the unaided efforts of the uterus to engage it, may be quickly engaged and advanced so that a forceps delivery may be done; or again in a partially engaged head with weakening pains, a forceps may be avoided and the head advanced to the place where an easy

low forceps may be done. If, however, one should make the mistake of administering pituitary extract to a case in which the head will not engage and there arises a demand for immediate delivery, either because of the condition of the mother or the child, one of the most valuable methods for rapid delivery (version and breech extraction) is made impossible. To one who has had considerable experience in the administration of pituitary preparations, version within two hours after its administration would certainly seem a hazardous procedure. Dr. Dobbin, of Baltimore, states that he has seen one case of rupture of the uterus, and Druskin[25] reports one case in which the use of the drug was certainly the cause of rupture. Polak[26] reports one case.

If given too early it is not usually as efficient and by its rather stormy activity, it is apt to increase the nervousness and exhaustion of the mother and still leave the patient in a condition from which some other method of relief must be found. It is of great use in the first stage in properly selected cases, particularly in the last half of the first stage.

It is in the first stage of cases of placenta praevia in conjunction with tampons or balloons, that it will be most useful. If we finally determine that it may be used regardless of increased blood pressure in cases of pre-eclamptic toxaemia eclampsia or nephritis, it will be of great help in the first stage of these cases. It is of use in many cases of slow and tedious labor even in the first stage, and in the absence of definite contraindications, and with the bag of waters intact, it can probably do very little harm. It seems to fail most completely in the cases which, with the cervix only partially dilated, have ruptured the bag of waters and after a considerable period of time have still failed to complete the dilatation of cervix and begun to weaken. These cases nearly always fail to respond to the pituitary preparations.

In the first stage it is already being given to women who are having perfectly normal labors and who would deliver their children without difficulty, to hurry the case for the sake of an impatient or hurried attendant. In these cases the only harm which is done can be a precipitate delivery with greater cervical and perineal tear than necessary. Such use of the drug however opens the way to great abuse of it and concomitant to it is not to be with careless pelvic examination can be the cause of near accidents.

Polak states that it has no place in the first stage of labor. We report the following cases.

Case XII. Mrs. K., 1 para; age 28; with history of being six weeks overdue. February 28, at 5 p.m., Barnes bag inserted; 3 a.m., March 1, feeble labor pains until March 2 at 6 a.m., when they became regular and effectual. At 10 p.m. cervix not fully dilated, head presenting L. O. I. P. position, maternal pulse 64, fetal heart 156. Labor pains at 6-minute intervals, lasting about 30 seconds. At 10:18 pituitrin injected; pains began to be stronger and closer together, occurring about every two minutes; fetal heart beat 148, mother's 64; these continued about two minutes apart until 10:54, when they became about three minutes apart. At 11:14 pains were slight and about 3 minutes apart; fetal heart 144, maternal pulse 56. After 11:30 pains began to diminish in intensity and occur at longer intervals; cervix now fully dilated and head low in pelvis, so that an easy delivery by forceps was done.

Case XIII. Mrs. K.; 1 para; age 23; white; measurements: spine 23, cr. 26, tr. 29, ex. c. diag. c. 10.5; due January 30, 1913. Vertex presentation, L. O. A. position. On February 6 patient went into labor; pains at first slight and far apart; five minutes apart pains being fairly strong. At this time the cervix dilated to about the size of half dollar; membranes intact. At this time the fetal heart was 148; mother's pulse between 72 and 80. One c.c. of pituitrin was given. In about 10 minutes after the pains began to be closer together, occurring about every one and a half minutes, occasionally appearing to be continuous. While these pains were close together, they did not appear to have expulsive power; the fetal heart increased in rate, reaching its maximum 30 minutes after administration of the pituitary extract, when it was 158. After about one and half hours after administration of pituitrin patient's pulse suddenly went to 120, but in the course of 10 or 15 minutes fell back to about 80. At the end of two hours patient had made no progress, pains had become feeble and about 10 minutes apart; patient complained of being tired out, and went to sleep. At 6:30 a.m., February 7, pains again started up, and patient was delivered at 1:30 p.m.

Case XIV. E. F., white; age 20; 1 para; pelvis normal; vertex presentation; L. O. A. position. This woman had been given pituitrin eight days before, for the purpose of inducing labor. She had pains which simulated the beginning of labor pains; these had caused some dilatation of the cervix, but had not induced labor.

On the morning of March 15, labor pains began with considerable regularity; at 9 a.m. pains were regular and strong, six minutes apart; at 11 a.m. pains were three minutes apart, still stronger; at 12 m. four minutes apart, strong in character; at 12:30 pains not quite so strong and showing tendency to a greater interval. At 3 p.m., with two-thirds dilatation of the cervix and weakening pains, [illegible] pituitrin a few minutes later [illegible] stronger and [illegible] in character, strong two minutes apart, and continued to [illegible] 9 p.m., when [illegible] after child was [illegible] uterus contracted [illegible] bleeding, which was controlled [illegible] Temperature

ture and pulse were very little affected. Blood pressure rose from 110 at the time of administration to 128 about thirty minutes after, from which time it fell gradually to 100 at the time of delivery. Puerperium normal.

Case XV. Maryland General Hospital. Mrs. R., age 30; 1 para; pelvis normal; R. O. A. position; limbs slightly edematous; trace of albumin in urine; blood pressure 155. Went into labor February 17 at 1 a.m., with good pains. At first about six minutes apart, and afterwards three or four minutes apart. Dilatation was slow, and at 4 p.m. with no engagement, cervix about one-third dilated; 12 gr. quinine were given. At 8 p.m. about three-quarters dilated, head engaged, patient and child showing some exhaustion; 1 c.c. of pituitary extract was given. At this time blood pressure 155, pulse 88. Pains immediately became stronger, but in about 5 minutes patient complained of headache and in about 15 minutes had a convulsion. She was immediately delivered with forceps; child dead; weight 8 pounds. There were no more convulsions, and patient made an uneventful recovery, the albumin disappearing entirely from the urine in about seven days.

Case XVI. Maryland General Hospital. Mrs. M. B., white; age 30; I para; pelvis normal; head presenting R. O. P. position; went into labor January 3, 10 p.m. Pains were weak and ineffectual though fairly close together during the night of January 3. On January 4, because of ineffectual pains, she was given morphine to get some rest. She obtained about four hours' sleep, when pains again started. This was early in the morning of January 5. Until the morning of January 6 pains were fairly good; cervix dilated on January 6 to about size of silver dollar. Patient and child in good condition. At 4 p.m., January 6, 1 c.c. of pituitary extract was given. Cervix at this time two-thirds dilated, pains good, head well moulded, engaged. At 5 p.m. pains had increased, but as patient had begun to be exhausted and head well advanced, she was delivered with forceps; recovery with mild infection in puerperium. Child living; child somewhat asphyxiated; easily resuscitated.

Case XVII. Service of Dr. Seegar, St. Agnes Hospital. Mrs. B., out-patient; age 24; 1 para; head presentation; L. O. A. position; in labor 12 hours when membranes ruptured spontaneously, cervix partially dilated, pains ceased. One c.c. pituitary extract given with no effect, no contractions being set up at all. Later on, stimulation by quinine, child was delivered spontaneously after long labor. Child living; no asphyxiation; no bleeding; puerperium uneventful.

Case XVIII. Maryland Lying-In Hospital. Hosp. No. 6267. E. P., black; age 20; 1 para; pelvis normal; entered hospital after being in labor 48 hours; cervix partially dilated, head presenting, pains poor; stimulation with quinine attempted; no result. Pituitary extract 1 c.c. given and repeated in 30 minutes, with positively no effect upon pain, pulse or blood pressure. Further examination showed a mildly hydrocephalic head, which had been overlooked outside of hospital. Delivered by craniotomy. No hemorrhage. Recovered.

Case XIX. Maryland Lying-In Hospital; Hosp. No. [illegible]; L. D., black; age 22; [illegible] of the pelvis; full term; in labor about six hours with weak pains. Cervix one-third dilated, very neurotic; experimental dose of 1 c.c. of pituitary extract with 1-40 gr. strychnine given at 3 a.m. Record follows:

Time	Pulse	Blood Pressure	Pains
3:00	106	100	5 minutes
3:10	110	110	1½ minutes
3:20	110	110	1½ minutes
3:30	116	122	1½ minutes
3:50	116	114	2 minutes
4:00-4:20	110	106	1 minute
4:20-4:45	108	100	1 minute
4:45 Second dose 1 c.c.			
5:00	116	140	1 minute
5:15	110	126	1 minute
5:30	106	104	Continuous
5:45	96	100	1½ minutes
6:00	96	100	1½ minutes

6:00-8:30 Pains remained at 1½ minutes apart.

Pain and blood pressure unchanged from that of 6 a.m.; delivered spontaneously at 8:30. Child living, weight 6 pounds; no asphyxiation; no postpartum hemorrhage; third stage, 10 minutes.

Case XX. Maryland Lying-In Hospital. Hosp. No. 6195. E. K., black; aged 15; 1 para; contracted pelvis (Sp. 22, cr. 24, troch. 29, ex. conj. 17.5, diagonal conj. 9.5), vertex presentation R. O. P. position; in labor about 8 hours, cervix one-half dilated. One c.c. pituitrin with 1-40 gr. strychnine given at 3 a.m. Record of pains, pulse and blood pressure follows:

Time	Pains	Pulse	Blood Pressure
3:00	Fair	100	120
3:10		110	124
3:20	1 minute apart	96	136
3:30		90	136
3:40	Almost continuous	94	130
4:00	1 minute apart	88	124
4:00-4:40	1 minute apart	90	124

4:40 child delivered; living, not asphyxiated; weight 5 pounds; no bleeding; puerperium uneventful.

Case XXI. Mrs. O. C. White; 1 para; age 26; pelvis slightly flattened. Seen in consultation with Dr. J. W. Cole. Preliminary pain began about 11 p.m., April 16 and continued at about 15-minute intervals during the 17th and 18th, with stronger pains during the 19th, with cervix half dilated and membranes ruptured. Quinine given with little effect. At 3 a.m., April 20, I first saw the case and recommended that the patient be given some rest. Morphine was given and the patient had a few hours sleep. During the morning of the 20th pains again began and increased in severity. At 1 p.m. 1 c.c. pituitrin was given with little result; another dose 1 c.c. was given in about one hour with very little effect on pains. At 4 p.m. the patient began to be exhausted. Dilatation was completed and patient delivered with forceps. Child living, no hemorrhage, no asphyxiation. Child grew nicely. Puerperium uneventful.

An examination of the foregoing cases will show that the action of the pituary preparations is not particularly satisfactory in the first stage, though it frequently engages or advances a head which

up to the time of its administration was unengaged or stationary. It can without doubt be stated, that its use is by no means attended with the brilliant results frequently obtained in the second stage.

The cases from Nos. 12 to 21 inclusive, except those which are manifestly experimental, have been selected more to show the abuse of the drug than the proper use of it.

In case No. 12 it was used to some advantage. In case 13 it was given too soon and failed. In case 14, it seemed to have been indicated and was successful. In case 15, the question certainly arises whether the administration of the drug had any part in causing the convulsion. In case 10, it probably helped. In case 17, it failed. In case 18, there was an absolute contraindication and its administration was a serious mistake. Cases 19 and 20, were entirely experimental. In case 21, it failed.

All authorities agree that the period of greatest usefulness of the pituitary preparations is during the second stage of labor. Many women are able to fully dilate the cervix but make no further progress, or may fail to engage a head in a slightly contracted pelvis, or may advance the head partially through the birth canal, or may even bulge the perineum with the advancing head or breech, and then sucumb to exhaustion. For one reason or another it is the second stage which has usually brought the exhaustion, fatal to the hoped for spontaneous delivery. It is here that the remedy shows its almost magical quality, terminating sometimes in a few minutes, cases which have dragged to an almost interminable length, or quickly changing a slow and exhausting second stage with weak and far apart and insufficient pains into vigorous, forceful and efficent bearing-down pains which make the patient and her friends as well as the attendant have hope of a speedy termination. No other remedy or method of delivery can bring, when successful, such a change in the outlook of what has been a tedious and wearisome case. It will make an easy low forceps sufficient, when a difficult high forceps would otherwise have been necessary. It practically does away with the cases which otherwise would terminate in a low forceps delivery.

It is a wonderful remedy in the second stage and too much can hardly be said in its praise. I should like to emphasize this point however. The uterus which has been thoroughly exhausted by long continued efforts to engage or advance the presenting part, will frequently not respond. An examination of the cases here reported in which the pituitary preparation did not cause any response, will show that practically all of them were in the thoroughly exhausted cases; and in these cases in any stage, one not only does no good by the administration of pituitary preparations, but adds to the hopelessness of the situation and loses, while waiting on the pituitrin, valuable time which might be better spent in other methods of delivery. I report the following cases:

Case XXII. Mrs. H., white; age 24; 1 para; pelvis normal; L. O. A. position. In preliminary labor about 24 hours with inefficient pains. In labor about 20 hours with good pains. Pains began to diminish in intensity when cervix fully dilated and head engaged. One c.c. pituitrin gven and bag of water ruptured artificially. Pains increased in intensity and frequency. Child born in about 1 hour. Weight, 8 lbs. No asphyxiation. Slight hemorrhage, probably due to previous 44 hours of exhausting labor. Puerperium uneventful.

Case XXIII. Mrs. W. S., white; age 35; 3 para; first child born dead; second child delivered slightly asphyxiated after long, tedious labor during which pains were slow and tedious. Third labor about 16 hours with slow, inefficient pains, which began to diminish in efficiency and force. Cervix fully dilated, head engaged, after two hours with head stationary. One c.c. pituitrin given. Delivery in about one hour. Child O. K., weighted 8½ lbs. After delivery the patient seemed slightly shocked and collapsed. This increased, with no bleeding or other complications to account for it. The shock increased with some cyanosis—heart 130 to 140, temperature 101. This continued for six hours. Two physicians saw the case in consultation without being able to account for her condition. After six hours some improvement was shown. She gradually improved and was in fairly good shape in about four days. On the 13th day progress was complicated by phlebitis, which lasted 13 weeks. We could not help wondering whether the pituitrin could have had anything to do with the collapse.

Case XXIV. Mrs. N. C.; white; 4 para; full term; pelvis normal. First labor dry, tedious, with pain and exhaustion and forceps. Second labor very easy, but with post-partum hemorrhage. Third labor normal. Present labor pains began on October 11, in afternoon, increasing somewhat in force until about 8:30 a.m., October 12, but remaining far apart (10 or 12 minutes) all day of October 12. At 10 p.m., October 12, full dilatation, head above superior strait, bag of water unruptured. At 1 a.m., October 13, 1 c.c. pituitary extract given. Pains immediately increased in efficiency and child was delivered 1:30. No asphyxiation, no hemorrhage, placenta 1.40.

Case XXV. Mrs. G. L., white; age 22; 1 para; full term. Sp. 26, cr. 27.5, troch. 28.5, diag. conj. 18.5; L. O. A. position. Began labor October 29, 6 p.m. Pains about 10 minutes apart during evening of October 29 and morning of October 30, until about 2 a.m. About 2 to 5 minutes apart at 8 a.m. Head above superior strait. At 1 p.m. cervix dilated about one third. No decided disproportion

between head and pelvis being shown by examination. 1 c.c. pituitrin was given at 3 p.m. Pains increased in force and frequency for about one or two hours, when they again began to fail a little. Bag of water ruptured spontaneously at 3:30 p.m. At 9:30 cervix fully dilated, head engaged. At 11:30 head at level of ischial spine—pains severe but short and ineffectual. One c.c. pituitrin given with no increase in efficiency of pains. At 12:30 patient was delivered with forceps, because of weakening of foetal heart. Child weighing 7 lbs. 4 oz. was delivered badly asphyxiated, but was resuscitated, and did nicely. No hemorrhage.

Case XXVI. Mrs. R., white; age 24; 1 para. Slightly contracted pelvis. Seen in consultation. In labor 24 hours. Posterior position. Os two-thirds dilated, stimulated by quinine and strychnine. Head attempting to engage. No foetal heart heard. One c.c. pituitrin given. Advance from partial engagement to level of ischial spines. In about three-fourths hour examination showed prolapse of cord beside head but inside of cervix. The cord had evidently descended before the administration of the pituitrin. Craniotomy and delivery. No bleeding. Puerperium normal.

Case XXVII. Mrs. W., white; age 21; 1 para, pelvis normal. Full breech presenting. In labor 36 hours with fairly hard labor pains for about 18 hours. Cervix two-thirds dilated. Pains not strong, pulse 100, temperature 98.8 One c.c. pituitrin given. Pains continued at about the same interval, about five minutes, but became more intensive and expulsive and child was born about 30 minutes after administration. No lateral inclination of body. Very severe tear of perineum. Normal puerperium, no bleeding or asphyxia.

Case XXVIII. Mrs. B., white; age 30; 1 para; slightly contracted pelvis; sp. 24, cr. 26, troch. 31, ext. conj. 19; in hard labor about 18 hours. Cervix fully dilated, head at level of ischial spine. One c.c. pituitrin. Delivered in one hour. Child badly asphyxiated, O. K. after resuscitation. Placenta followed in two or three minutes. Puerperium uneventful.

Case XXIX. Mrs. C.; 1 para; white; age 30; full term; pelvis normal; R. Mento Ant. position. Head at level of ischial spines; in labor for 18 hours. Child and mother both somewhat exhausted. One c.c. pituitary extract given at 9 p.m., with decided increase in force and frequency of pains. Child delivered at 9:30, badly asphyxiated and died in about 30 minutes, in spite of all efforts to resuscitate it. Tear second degree.

Case XXX. Mrs. P.; white; age 27; 1 para; full term; pelvis slightly flattened. In labor about 20 hours. Cervix fully dilated, head partially engaged, very little progress. Pituitrin given, with immediate increase in efficiency of pains. Child delivered in about 40 minutes. No asphyxia, no bleeding. Tear first degree, also tear at side of urethra.

Case XXXI. Mrs. B.; age 33; 1 para; slightly flattened pelvis; R. O. A. position; three weeks overdue. In labor about 20 hours, with head at level of ischial spines. No progress for about 2 hours. Bag of water ruptured spontaneously at end of 18 hours. One c.c. pituitrin given because foetal heart was slowing. Pains almost immediately strengthened, head descended rapidly, and the child, weighing 7½ lbs., was born in about 20 minutes, badly asphyxiated, but resuscitated after some difficulty. Tear second degree. This tear was probably greater because of rapid delivery of head. A little more than the usual amount of bleeding followed delivery. Mother and child both did well.

Case XXXII. Mrs. H.; white; age 22; slightly flattened pelvis. R. O. A.; full term. In labor about ten hours with pains weakening. Cervix fully dilated, head engaged. One c.c. pituitrin given. Response was not very prompt, but there was slight increase in strength of pains and the child was delivered in one hour and thirty minutes. No asphyxiation; tear first degree. No hemorrhage.

Case XXXIII. V. R.; black; age 17; primipara; pelvic measurements: Sp. 25, cr. 28, troch, 32, ext. conj. 20.5; L. O. A. position. Started in labor October 13, 1914, about 9 p.m., with pains 30 minutes apart and not very hard. Pains gradually grew harder until 6:30 a.m., October 14, when membranes ruptured spontaneously. Patient was examined at this time, and the os found to be dilated the size of a silver dollar. Pains grew harder and more effectual until 10 a.m., when the cervix had dilated and the head descended to the perineum. At this time pituitary extract 1 c.c. was given, with the following results:

Time a.m.	Blood Press. Syst.	Diast.	Pulse M.	F.	Pains
10:00	120	110 mm. Hg.	98	117	2 min. apart and hard
10:10	120	110	88	117	2 min. apart and hard
10:10	Pituitrin given.				
10:25	140	115	66	114	1¾ min. apart and harder
10:40	140	110	88	114	1¾ min. apart and harder
10:55	120	90	98	114	2½ min. apart
11:09	Baby born				
11:10	118	80	88		
11:25	122	110	72		

Pulse of 98 at start probably due to nervousness. Baby weighed 3570 gms. and was delivered without tear. Slight asphyxiation. Retro-placental blood clot was not increased, 60 minims of flext. ergot being given as per routine of this hospital. Placenta separated and was expelled, Crede's method, in 15 minutes. No hemorrhage.

Case XXXIV. Mrs. W. M.; age 24; 1 para; pelvis normal; full term; L. O. A. position. Labor began 11:30 p.m. Pains at short intervals after 3 a.m. Pains severe, continued until 11:35, when membrane ruptured. Head in pelvis, no advance. At 12 m. pains less frequent, patient showing some signs of exhaustion. One c.c. pituitrin given. Pains increased in intensity and became more frequent, and child delivered 1:48 p.m. Child weighed 7¾ lbs. No asphyxiation, no hemorrhage. Recovery uneventful.

Case XXXV. Mrs. A. W.; age 38; 1 para; full term; pelvis normal; R. O. P. position. In labor from 1 a.m. until about 2:30 p.m. without strong pains. At 4 p.m. pains strong and about 4 minutes apart. This continued until about 7:30 p.m., when patient began to show signs of exhaustion, at 8 15 cervix fully dilated head engaged, descended to

about level of ischial spines. One c.c. pituitary extract given. Pains increased in strength, becoming quite violent; head descended quite rapidly until perineum was reached, when it was delivered slowly on account of extreme rigidity of perineum. To our surprise, the child, which had been in good shape half an hour before, was apparently dead, and all efforts at resuscitation failed. Placenta followed the child immediately, and more than the usual amount of bleeding was controlled by ergot, massage, etc. This child evidently was lost in the last minutes of delivery from too early separation of placenta. Puerperium uneventful.

Case XXXVI. Mrs. R.; white; age 40; 1 para; pelvis normal; L. O. A. position; full term. Labor began September 15, 8 p.m., with slight, inefficient pains, until the afternoon of September 16. From 4 p.m., September 16, until 8 a.m., September 17, pains severe. At 9 a.m., with full dilatation of cervix, bag of water ruptured spontaneously. At 11:30 a.m. head on perineum. At 1:15 p.m., on account of failure to deliver, one c.c. pituitrin given. Child delivered 1:35 p.m. No asphyxiation, no hemorrhage.

Case XXXVII. Mrs. McS. (seen in consultation with Dr. C. M. Cook) white; age 30; 2 para; slightly flattened pelvis; full term; vertex presentation; L. O. A. position. July 3, 1 a.m., bag of water ruptured. Pains starting soon afterward continued steadily with fairly strong pains until 1 p.m. At this time cervix dilated and head engaged, but not advancing. At 3:15 with head in mid-pelvis and pains weak, one c.c. pituitary extract given. Pains increased in frequency and intensity in about five minutes after injection, and in about fifteen minutes became so violent that the patient became quite hystrical and threw herself about. Pains were so violent that injury to uterine wall was feared, and ether anaesthesia was resorted to. At 3:45 patient quiet and bearing down. At 5:30 the head having advanced very little, she was delivered by forceps. Baby weighed 9¾ lbs., badly asphyxiated, but resuscitated after about 15 minutes and did nicely. No hemorrhage. Puerperium uneventful.

Case XXXVIII. Mrs. T.; white; age 33; pelvis normal; L. O. A. position. At 7½ months, without warning, urine free from albumen and casts, blood pressure normal, no oedema, this patient was seized with a convulsion. She was unconscious for three hours. Treated with purgatives, morphia, sodium nitrite, hot packs and salt solution. She recovered, had no more convulsions, and was [illegible] week apparently well. No albumen appeared in urine until several days after the [illegible] disappeared. No [illegible] Readmitted to Hospital at full term with preliminary pains which continued from morning of October [illegible] October 11, when definite labor pains were set up. At 1 a.m. there was full dilatation and spontaneous [illegible] of water with partial [illegible] of head. At [illegible] on account of slow progress and weak pains, 1 c.c. pituitrin was given. Pains [illegible] in intensity at [illegible] interval, and child weighing [illegible] was delivered at [illegible] No bleeding, no asphyxiation. Puerperium uneventful.

Case XXXIX. Mrs. G. D.; white; age 18; 1 para; overdue 10 days. Pelvis measurements: Sp. 23.5, cr. 25.5; troch. 28.5; ext. cong. 16.5, longitudinal cephalic presentation; L. O. A. position. Foetal heart 150. Pains began Nov. 3, 9 p.m., continued about ten or fifteen minutes apart all night. November 4, 9 a.m., pains about ten minutes apart. Head partially engaged, could be felt above symphysis. At 6 p.m. pains about five minutes apart and head could no longer be felt above symphysis. Maternal pulse 96, foetal heart 150; at 9:30 p.m. head had descended to level of ischial spines. Pains rather weak. One c.c. pituitary extract given. Pains began to be stronger and closer together in about five minutes, and were only about one minute apart. Perineum distended at 9:45 and child delivered at 10 p.m. No tear, slight asphyxiation, no hemorrhage. Placenta, 10:10 p.m.

Case XL. Mrs. J.; white; age 30; full term; pelvis normal; 3 para; first labor, 2 hours; second labor, 1½ hours. Labor started 3 p.m., September 10. Pains were hard and close together. At 7:30 pains grew lighter and further apart. Cervix fully dilated, and bag of water ruptured. At 8:30, 1 c.c. pituitrin given with no effect. Repeated at 9:30 with a slight increase in strength of contractions; repeated at 11:30 with an increase in contractions lasting about twenty minutes. At 1 a.m., with very little advance of the head, forceps were applied and child delivered. No asphyxiation, no hemorrhage.

Case XLI. Maryland Lying-In Hospital. Hospital Case 6226. M. S., black; age 24; 1 para; duration of pregnancy, 8½ months. Entered Hospital after having been in labor for more than 48 hours. Examination showed normal pelvis, head presentation, L. O. A. position; cervix fully dilated, membranes ruptured, head not engaged, pains far apart and weak, pulse 120, blood pressure 100, child in good condition. One c.c. pituitrin given at 2 a.m. Record of pains and blood pressure as follows:

Time	Pains	Blood Pressure
2:10	Stronger	105
2:20	1½ min. apart	110
2:30	1 min. apart	120
2:40	1 min. apart	120
2:50	1½ min. apart	124
3:00	1½ min. apart	116

At 3:10 she was deliveerd with forceps. During the hour she had engaged the head and advanced it to a mid-forceps position, where an easy forceps delivery terminated labor. Child living, no asphyxiation, weight 6½ lbs., no bleeding, puerperium uneventful.

Case XLII. Maryland Lying-In Hospital. Hospital No. 6245. M. A., black; age 29; 5 para; generally contracted pelvis (sp. 21, cr. 23, troch. 28, ex. conj. 17.5). Previous labors long. One forceps delivery after 36 hours of labor. Was first seen in out-door clinic when she had been in labor 36 hours, bag of water having ruptured 15 hours before. Examination showed vertex presentation, L. O. A. position, cervix fully dilated, head engaged, pains weak. Quinine 15 gr. given with no effect. Moved to the hospital at 12 p.m. At this time temperature was 98, pulse 116, blood pressure 126. Pituitrin 1 c.c. given with 1-40 gr. of strych- [illegible] In 11 minutes strong pains began and at

the end of one hour were almost continuous. At 1:10 a.m. vertex showed at vulva and at 1:15 a.m. delivery occurred. In this case blood pressure and pulse were both lower, blood pressure falling from 126 to 110, pulse from 116 to 110. Child living, not asphyxiated, weight 7½ lbs., no hemorrhage. Puerperium uneventful.

Case XLIII. Maryland Lying-In Hospital. Hospital No. 6401. Mrs. M.; white; 1 para; age 30; normal pelvis; entered hospital in labor (four hours), cervix fully dilated, head engaged. Catheterized specimen of urine showed traces of albumen. Blood pressure 150; foetal heart 144; experimental dose 1 c.c. pituitary extract given to note effect on foetal heart, pains and blood pressure. No effect on pulse, blood pressure fell a little, foetal heart increased ten beats or more, and pains reduced from five to one and one-half minute intervals, with increased intensity. Delivered in one hour from time of administration. Child living, no asphyxiation, weight 6½ lbs., no bleeding. Puerperium uneventful.

Case XLIV. Maryland Lying-In Hospital. Hosp. No. 6100. M. W., black; 1 para; age 25; pelvis slightly contracted; R. O. P. position; in labor with complete dilatation at end of five hours; after two hours more of severe pain, head engaged, but then remained stationary for two hours, with weakening pains; 1 c.c. of pituitary extract with 1-40 gr. of strychnine given at 4 a.m. She had then been in labor 9 hours. Record follows:

Time a.m.	Pulse	Blood Pressure	Pains
4:00	100	110	Weak
4:10	100	110	Weak
4:20	106	116	Strong
4:30	110	120	Strong
4:40	114	126	1 minute apart
4:50	118	120	Continuous

At 4:52 delivered; child living; no asphyxiation; weight 7 lbs. 14 ounces; no post-partum hemorrhage. Third stage, 10 minutes.

Case XLV. Service of Dr. Seegar. St. Agnes Hospital. Mrs. S.; white; age 30; 1 para; vertex presentation; L. O. A. position. In labor, first stage, 6 a.m. to 9 p.m. Membrane ruptured spontaneously at 9 p.m. Pains slow and weak, blood pressure 135, pulse 108, at time of administration of pituitary extract (9:45 p.m.) patient immediately began to have severe contractions, first pain lasting six minutes; severe pains continued at frequent intervals for 20 minutes, then lessening for about ten minutes and then increased again to the end of the second stage. Child delivered at 11 p.m. Child living, no bleeding, no asphyxiation. Pulse and blood pressure little changed after administration of pituitary extract. A little more than the usual bleeding after placenta had been expressed.

The above case was complicated by an ovarian tumor about 8 c.m. in diameter adherent in cul-de-sac below brim of true pelvis, and a face or other abnormal presentation was feared. At the end of the first stage the tumor was lifted above the brim, allowing the passage of the child. The tumor evidently made the first stage much longer; the child was not asphyxiated; puerperium complicated by a mild phlebitis on eleventh day.

Case XLVI. Service of Dr. Seegar. St. Agnes Hospital. Mrs. A.; age 40; 7 para; head presentation; L. O. A. position; pelvis normal. This was a very neurotic patient, who in all previous deliveries gave history of having demanded and received chloroform at a very early stage of labor, with a history of long and tedious labor probably in consequence of the administration of chloroform. She went into labor for about six hours and stood the pain very well, but after that began to complain bitterly and demanded chloroform. Examination showed the head not engaged, cervix well dilated. One c.c. of pituitary extract was given with the hope that it might shorten second stage. A few minutes after this administration patient had severe and almost continuous pains, and the child was expelled so precipitately that there was scarcely time to prepare for her delivery. The time was so short between the administration of the pituitary extract and the delivery of the child that the patient received almost no chloroform. Child was not asphyxiated, no bleeding, puerperium uneventful.

Case XLVII. Service of Dr. Seegar. St. Agnes Hospital. Mrs. W.; age 40; 2 para; head presenting; L. O. A. position; pelvis normal. History of first labor terminated by instrumental interference. In labor first stage, lasting eight hours. Membranes ruptured spontaneously. One c.c. pituitary extract given at end of first stage. Pains variable before administration, but immediately after administration pains became severe and continued strong during the second stage, which lasted 50 minutes. Child living; no asphyxiation; no bleeding; puerperium uneventful.

Case XLVIII. Maryland Lying-In Hospital. E. D.; white; age 20; 2 para; pelvis normal; first child delivered spontaneously; began labor second time on evening of March 9. Pains weak and far apart. The mid-wife in charge of the case was called during the morning of March 10. Pains still weak and far apart. From March 10 to March 11 a.m. she was in labor with ineffectual pains. On the morning of March 11, a physician was called, who attempted to deliver her with forceps and failed. At 3 p.m. on March 11 she was brought to the hospital. At this time her pulse was 140, temperature 102.8, cervix fully dilated and torn from attempts at forceps delivery. Head beginning to engage at four p.m. Quinine gr. 20 was given; pains improved. Interval between the pains diminished from 10 to 4 minutes apart at 6 p.m. At 9 p.m. head fully engaged, vertex at level of ischial spines, temperature 102, pulse 120. One c.c. pituitary extract given. In a few minutes, one long, hard pain brought the head to the perineum, and a few more pains delivered the child, weighing eight pounds fourteen ounces. No perineal tear; no post-partum hemorrhage.

Case XLIX. Maryland Lying-In Hospital. I. G.; colored; age 20; 1 para; pelvis slightly flattened; [illegible] March 28, 1913. She was admitted to the Hospital 1 p.m. on March 28; pains eight minutes apart, head not engaged. At 3 p.m pains five minutes apart, and at 6 p.m. pains two minutes apart. At 12:45 a.m., March 29, pains still two or three minutes apart and harder. At 4 a.m. pains not so hard, farther apart, cervix almost fully

dilated, head well engaged, occiput at level of ischial spines. At 4:10 a.m. 1 c.c. pituitary extract given. In about six minutes hard pains began at intervals of about one and a half minutes. Child weighing 7 pounds 2 ounces delivered at 6 a.m. No bleeding, no asphyxiation; puerperium uneventful.

Case L. Mrs. L. W. N.; white; age 22; 1 para; pelvis normal; L. O. A. position. Ten days over due. In labor about 15 hours with good pains until head reached pelvic floor, where it remained stationary for about one hour, with weakening pains. One c.c. pituitary extract given, with immediate increase of pains and child was delivered in about twenty mnutes; child weighing 8½ lbs. No asphyxiation, no bleeding. Tear of first degree.

Case LI. Mrs. S.; white, age 38; 1 para; pelvis normal; full term. In labor about twenty hours after preliminary pains lasting nearly a week. Examination showed canal fully dilated, but head was not engaged. Bag of water ruptured. Pains 15 minutes apart and weak. Patient exhausted. One c.c. pituitrin given with apparently no effect. One hour afterward pituitrin given with very little effect. Half hour afterwards patient was delivered with forceps. Child living, no asphyxation, no bleeding. Puerperium uneventful.

It is our very sincere conviction that more damage to the perineum occurs in the cases treated with the pituitary preparations than in corresponding cases delivered spontaneously, the rapidity of delivery in many cases making it almost impossible to save the perineum. When this is offset by the number of forceps deliveries from which patients are saved, the balance is certainly on the side of the pituitrin.

In regard to the foetus, we think that the danger of asphyxiation comes when the placenta is about ready to separate from the uterus, i.e., in the last half hour or so of labor with the uterus well retracted and the head low in the pelvis or on the perineum. If the pituitary preparation is given at the time and for any reason the child is not quickly delivered, the placenta will be separated from the uterus and the child will be asphyxiated.

Practically all our cases of asphyxiation occurred in these cases, and in every one of these cases the placenta followed the child almost immediately.

We are also convinced that there is less hemorrhage after delivery in the cases treated with the pituitary preparations. The action frequently lasts after the delivery of the child and tends to prevent relaxation of the uterus. We do not depend upon it, however, but use ergot as a routine measure after the delivery of the placenta.

The placenta is separated more quickly than in other cases and usually descends into the vagina in a few minutes, being expressed spontaneously or by easy pressure on the fundus. In no case has there been constriction of the cervix or retention of the placenta.

If it be admitted that successful labor at or near full term may be induced in a sufficiently large number of cases to make it worth while, then the next question worth settling is whether in the cases in which we need it most—the nephritic, pre-eclamptic and eclamptic cases—it may be used without greatly increasing the tendency to convulsive seizures and apoplexy.

We have not as yet attempted to control the action of the pituitrin by combining it with other drugs, but will in the near future make such experiments.

Conclusions:

(a) Pituitary Extract is a valuable addition to our list of remedies, but must be used with judgement.

(b) It may, in a considerable percentage of cases, be use to induce labor at or near full term.

(c) A small percentage of cases may show toxic effect.

(d) Its usefulness is limited in the first stage of labor.

(e) Its usefulness is very great in the second stage of labor, growing greater the closer relation its administration bears to the end of the second stage.

(f) It should probably be used with caution in the cases usually accompanied by high blood pressure—such as pre-eclamptic toxaemia, Eclampsia and Nephritis.

(g) It should never be used when there is marked disproportion between the child's head and the mother's pelvis, or in any case where there is serious obstruction from any cause.

(h) When combined with careful preliminary examination and close observation of the progress of labor, it will avoid a large percentage of operative deliveries.

(i) There is less bleeding in the third stage and after the delivery of the placenta, and the third stage of labor is shortened.

(j) Version should not be attempted during the two hours following the administration of a pituitary preparation, except in cases where there is entire failure on the part of the uterus to respond to the drug.

BIBLIOGRAPHY.

[1]Howell: Journal of Experimental Med. 3, 245, 1898.

[2]Schafer & Vincent: Journal Experimental Phys. 2, 51, 1889.

[3]Schafer & Herring: Philosophical Trans. Royal Society, London. 1906. B. CXCIX.

[4]Herring: Amer. Journal Phys. 27, 6, 1910.

Cushing & Goetsch: Amer. Journal Phys. 1910.

[5]Edit. British Med. Journal Dec. 4, 1909.

[7]Quigley: N. Y. State Jour. Med. June, 1913.
[8]Albrecht: Albany Med. Annals, XXXIV, 707.
[9]Vogt: Munch. Med. Wochen, Dec. 19, 1911.
[10]Edgar: Trans. Amer. Gyn. Soc., Phila., 1913, XXVIII, 28, 47.
[11]Lescohier & Clossen: Journal Mich. State Med. Soc., Oct., 1912.
[12]Gottfried: Zent fur Gyn. Aug., 1911. 34.
[13]Fischer: Wiener Klin. Wochenschr. 1912, 15; 1911, 43.
[14]Greenbaum: Munch. Med. Wochenschr. Sept. 17, 1912.
[15]Humpstone: Amer. Jour. Obstetrics, Sept., 1912.
[16]Stern: Berli Klin. Woch. Aug. 7, 1911.
[17]Richter: Wiener Klin. Woch., Aug. 7, 1911; Wiener Klin. Woch., No. XIII, 480, 1912.
[18]Hirsh: Munch. Med. Woch., April 30, 1912.
[19]Schiffman: Amer. Jour. Obstetrics, Sept., 1912.
[20]Eisenbach: Munch. Med. Woch., Nov., 1912.
[21]Ehrenfest: Tran. Amer. Gyn. Soc., 1913, Vol. XXXVIII.
[22]Harrison: Arch. Int. Med. Chicago, 1913, XII, 322.
[23]Marx: Amer. Journal Surgery, Vol. XXVII, No. 9, 344.
[24]Rowland: Maryland Medical Journal, July, 1913.
[25]Druskin: Amer. Josr. Obstetrirs, Ort., 1914.
[26]Polak: Trans. Amer. Gyn. Soc., Vol. 38, p. 49.

DISCUSSION.

Dr. F. G. DuBose, Selma, Ala.—I think the essayist was splendid in the delineation of the details of his cases. The larger number of my difficult cases are in our hospital where opportunities for careful observation are offered. From this personal experience I suggest two warnings omitted in the paper presented: first, the danger to the mother in the early stages of labor, from rupture of the uterus, and laceration of the cervix and perineum were mentioned, but the essayist has failed to give us any idea of what happened to these babies as a result of injuries to their heads when the same are used as a wedge to forcibly and rapidly dilate an undilated cervix, and an unyielding perineum, as a result of the powerful action of the uterine body under the stimulation of pituitrin. It is of scientific interest and importance that the subsequent histories of these children be followed and from comparative tables ascertain if there are not, as we believe, a greater number of cerebral hemorrhages, birth palsies, and mental defectives among the children whose heads are subjected to such unusual force and compression.

Secondly, the use in placenta praevia. I think that as a method of inducing labor it is plainly contraindicated, as there are other methods relatively more efficient and safer. When the patient can have the advantage of hospital facilities the performance of Caesarean section is distinctly indicated, as the best method at present employed in the treatment of placenta previa.

Dr. F. Webb Griffith, Asheville, N. C.—As I happen to practice in a section where there are quite a number of tubercular patients, I have referred to me each year such patients for abortion. The pregnancy usually ranges from one to four months. I would like to ask the Doctor if he has had much experience as to the value of Pituitary Extract in these cases.

Dr. I. W. Faison, Charlotte, N. C.—I wish to thank the Doctor for this paper, and would be glad if it could be sent to every physician in the South. I know of a young practitioner who always told his wife he never knew when he would be back, when called to an obstetrical case. Now, he told her he would be back in two hours.

I have had no special experience in obstetrical work with it, but in two cases of profuse hemorrhage in tuberculosis. I treated these two cases with it—both of them absolutely and perfectly successful. Three years ago I was called to a man with profuse hemorrhage; I gave him 1. c. c. pituitary extract, and before I could put my syringe up the hemorrhage had ceased and he has not had a hemorrhage since.

Two weeks ago I was called to a man forty-five years old with profuse hemorrhage from his lungs; I had in my satchel the second dose of pituitary extract that I had bought two years ago; so it struck me that I would give it to him and take the chances, and I gave it to him with the same sucessful results; so that to stop a hemorrhage from tubercular pulmonary disease, you will find it successful—if it proves as successful in its action as it did in my two cases.

Dr. H. H. Purinton, Durham, N. C.—Recently I have had some experience with pituitrin, which I though might be of some interest. A short time ago a patient was brought to the Mercy Hospital, said to be five months pregnant, suffering with uremic convulsions. I had her carried to the operating room at once, and as her condition was so serious, decided to empty the uterus immediately. I had her chloroformed and she took it very badly. I undertook to dilate the cervix and found it in such a rigid condition that great violence would be necessary to accomplish my purpose. On account of the rigidity of the cervix and the condition brought on by the anesthetic, I desisted from further dilitation at that time.

I introduced a catheter into the uterus, secured it there, put the patient in bed and administered remedies to control the convulsions, hoping that labor would come on and dilatation take place gradually. Nothing of the kind occurred and in about six or eight hours afterward, finding no change had taken place, I decided to see what effect stimulation with medicine would have. The agent decided upon was pituitrin, and at the suggestion of one of my colleagues, one-half the usual dose was given. My consultant stated he had had some good results in the ordinary use of pituitrin, following its administration in smaller doses than those usually given. I decided upon the half dose as a matter of caution. After waiting an hour with no result the other half dose was given, followed by no apparent effect. We waited all night and in the morning, as there were no signs of labor, I had her anesthetized and after forcibly dilating the cervix, which was somewhat less rigid than at the first attempt, I delivered the foetus and she got along as well as patients usually do under such circumstances. I speak of this case because the question has been raised as to whether pituitrin will produce labor or not. In this case it did no good whatever. Whether my dose was too small, or the lack of results was due to the condition of the patient, I do not know, but it had no perceptible result.

Dr. J. L. Miller, Thomas, W. Va.—I have had no experience in the use of pituitrin in the production

of labor, but I have had thirty-one cases in which it was used after labor had begun, and in those cases I did not use pituitrin until I had a dilation of about three-fifths. In twenty-six of the thirty-one cases the child was delivered in from seven to twenty-five minutes; in the other cases, at the end of forty minutes. I gave the second injection and delivery followed inside of fifteen to twenty minutes in each of these cases. I have noticed that I seem to have more asphyxia than was made necessary by the other conditions present. In six of these cases there was considerable trouble to resuscitate, and in only two of those did the placenta follow immediately.

In regard to version, I have never had a case of version in which pituitrin was used, but I have done this: In a breech presentation as soon as the breech presented at the vulva, I gave a dose of pituitrin and the child was delivered without any ill effect whatever. This was in a primipara—a small woman—the child weighed six and a half pounds and caused the only laceration I have had in any of these cases; required but one stitch. Twenty-seven of the thirty-one cases were delivered under full anesthesia. As soon as I inject the pituitrin I begin the chloroform. I believe this will, to a certain extent, retard the pains and relax the maternal soft parts, so that you will not have any more frequent lacerations by the use of pituitrin. I have observed but one case in the use of this drug in which the pains seemed to be tetanic in character. I have seen some three or four cases in which the patient was making great complaint about the pain, and as soon as the pituitrin began to show its effects, the complaint was stopped.

I wish to thank the Doctor for his paper, which I have enjoyed very much, as I am particularly interested in the subject.

Dr. Edmund J. Horgan, Fairfax, Va.—This subject which Dr. Rowland has presented to us is of great interest because pituitary extract is such a valuable aid to the accoucher. I would like Dr. Roland to make some remarks in closing about the relaxation of the uterus following the contraction caused by hypodermic injection of pituitary extract. Is the pituitary extract a factor in producing relaxation and the resulting postpartum hemorrhage? In a number of cases in which I have used pituitary extract I have observed a marked relaxation, and severe postpartum hemorrhage followed its use in two cases. One a primipara, was delivered one and a half hours after the last dose—two doses of 1 c.c each were given—and immediately after expelling the placenta a severe postpartum hemorrhage occurred. The other case, a multipara was given 1 c.c of pituitary extract shortly after the placenta was expelled, as massaging the fundus and ergotole failed to produce the desired contraction of the uterus. Three hours after the delivery the patient expelled a large amount of clotted blood and one hour later she again expelled a large amount of clotted blood, at which time there occurred a very severe hemorrhage.

I would like to know if Dr. Rowland has used pituitary extract in post-partum hemorrhage. I have used it with immediate good results in a few cases of moderate hemorrhage, but I have never had an opportunity to use it in a severe hemorrhage. In the severe cases of hemorrhage I spoke of, I hesitated to use it because the patient had been given pituitary extract previous to the hemorrhage.

I also wish to ask Dr. Rowland if there is any experimental work being conducted to standardize the extract.

Dr. W. Kohlmann, New Orleans, La.—Gentlemen, the conclusions drawn by Dr. Rowland are, no doubt, very conclusive. I have used it quite extensively in seventy-five cases in the last three years. My experience, so far, is such that I do not use it except in second stage labor. As to the time it takes for the fluid to act, my experience is that it is about five minutes and in most cases the pain is very intense, so much so that I have everything ready to anesthetize the patient and, as a rule, the conclusion of the labor takes place very rapidly.

I use it in the second stage to effect delivery. I have used it also as a preliminary injection in Caesarean Section. The first one was about two years ago. She was the wife of one of my friends and had an ovarian cyst which obstructed labor. The result was very satisfactory as there was very little hemorrhage. I gave it just when I was ready to open the abdomen, and it was somewhat difficult to extract the child, showing that the effect had manifested itself so quickly. I decided that I would give the injection in future cases somewhat later—when I was ready to incise the uterus. The result in these cases was very good, the uterus could be opened without much bleeding. I have used this procedure in about eight cases in the last two years and have been greatly pleased with the beneficial effect. Only in one case I had some difficulty; I gave a slightly larger dose and the contraction was so quick and powerful that it was the most difficult matter to abstract the child.

Dr. A. K. Kessler, Huntington, W. Va.—I think this drug is very badly abused by its promiscuous use, or, rather, the patient is badly abused by the promiscuous use of the drug. If we use this drug at the proper time, after dilatation, we get good results; but when the case is hurried through with, it is dangerous. In hospitals almost daily we see patients sent in for the repair of lacerations of the cervix and perineum. I do not know what it will be in a few years from now if this keeps up. I do not think we can too strongly urge the careful use of this drug. It is producing a great amount of injury to the patient by improper use.

Dr. W. W. Crawford, Hattiesburg, Miss.—Referring to Dr. Rowland's uncertainty in regard to the advisability of giving pituitrin in eclampsia and nephritic cases on account of coincident high blood pressure, I wish to urge that pituitrin is not contraindicated, but on the contrary, is a distinct adjunct. Its vaso-constrictor qualities may be readily overcome by the exhibition of proper doses of veratrum. Veratrum does not detract from the oxytocic properties of the pituitrin. In fact, it is an additional safeguard in this class of cases.

I am sorry the doctor did not also discuss pituitrin as a surgical adjunct. To my mind, it has

quite as definite a place in the management of post-operative cases as in obstetrics. It gives balance to the heart when much needed; it relieves the distressing meteorism that is the nightmare of septic cases, etc. In our judgment, it has annihilated eserine's excuse for existence, in that it is a far better agent to produce peristalsis, and acts as a stimulant instead of producing the dangerous depression that so frequently follows the use of eserine.

Dr. B. H. Gray, Richmond, Va.—Pituitrin used for the induction of labor indiscriminately is a dangerous practice. There have been some cases reported in which it did induce labor; there have also been cases of ruptured uteri reported when used in the first stage of labor, before the head had entered the pelvis. In the hands of a careful and trained obstetrician it may occasionally be used with safety, but to advocate the use of the drug by all is a dangerous doctrine. Pituitrin has no place in contracted pelvis unless the head has passed the obstruction. I think the drug valuable in some cases of uterine inertia, but there should be certain conditions fulfilled when used in these cases, namely, there must be no disproportion between pelvis and head, the cervix must be fully dilated or dilatable, the head must be engaged in the pelvis. We have not as yet learned just what effect the drug has upon the fetus. We are already seeing reports of fetal asphyxia occurring with greater frequency when pituitrin is used. Edgar in his report of seventy cases in which pituitrin was used observed four cases of fatal fetal asphyxia.

In regard to the use of pituitrin in pre-eclamptic conditions, we regard the rising blood pressure in these cases as a signal of impending convulsive explosions. I do not think it good practice to use a drug that will increase an already existing high tension and probably precipitate the explosion.

Pituitrin is a valuable drug in inertia following the third stage of labor and in post-partem hemorrhage. Pituitrin sensitizes the uterine muscles, gathers up small uterine contractions into effectual, strong contractions.

Dr. John F. Winn, Richmond, Va.—I regret not being present at the reading of the paper, because it is a subject of very great importance. I wish to emphasize the remarks made by my friend, Dr. Gray. One must be assured that the cervix is dilated, and that the presenting part is proportionate with the bony passage. I would insist that pituitary extract has well-defined indications, and as equally postive contraindications. In other words, it is an agent for good in properly selected cases; it is a most dangerous agent in the hands of one who does not know when to use it.

Dr. Rowland closes—I wish to thank the association for its very full discussion of my paper.

Judging from the discussion, the selection of the title was a very wise one. I think Dr. DuBose is entirely right when he says it is of no use, practically, in the first stage. It is probably of very little use in the first stage except in placenta praevia. I have only tried one case of placenta praevia with pituitrin, but satisfactory reports are coming in from all sides of a great number of cases treated. There may be a number of cases in which first stage treatment will prove satisfactory. As long as the bag of waters is not ruptured and the uterine wall is perfectly sound and there is no obstruction, the use of pituitary extract is safe. It is after the lower uterine segment is very much distended that the use of pituitary extract becomes dangerous.

Dr. Purington says that he gave two doses without any results. We will always find it true that if the first dose does not cause contractions the second dose will not, either. A second dose is sometimes necessary to complete the action started by the first dose, and a third dose after the second; but if there are no results from the first dose, there will be none from subsequent doses.

Concerning the asphyxiation of the child: This accident does occur, unquestionably, a little more frequently. In the cases we have had there was only one baby born dead and several asphyxiated. I am not certain that the child which was born dead might not have been born dead in any event, but one cannot be certain. There is no doubt of the asphyxiation and also a greater number of tears of the perineum, but if you offset these tears by those which would have occurred from forceps deliveries which would have been necessary without pituitary preparations, the credit is probably on the side of the pituitrin.

Concerning its use after delivery: We have not depended upon its use post-partum. We use ergot as a routine measure. The action of pituitrin is intermittent; the action of ergot is constant, and we depend upon the drug that we know is dependable. It is given after Caesarean section. Dr. Kohlmann spoke very graphically of his experience with pituitrin in Caesarean section. We have not used it. Some of the men who have given it immediately after the delivery of a child in Caesarean section found much difficulty in properly placing sutures.

As to Dr. Crawford's suggestion of safeguarding its use in toxemia: We have determined not to use it again in these cases without attempting to safeguard it. We could do this probably with veratum viride. Many are reporting its use in pre-eclamptic cases without bad results. Blood pressure is apparently increased in these cases, and, of course, the tendency to apoplexy. If one raise the blood pressure with pituitary extract from fifteen to thirty points, the tendency to apoplexy is probably greater. The veratum viride would probably prevent increase of tension more than a very few points in the blood pressure.

Contracted pelvis, provided the child is not too large to pass, is not in itself a contraindication to its use.

I saw Professor Neale, of the University of Maryland, give pituitary extract in a case of contracted pelvis on which a Caesarean had been done in a previous labor. In this case the cervix was dilated, but the head not fully engaged. The child was delivered in ten minutes after the administration of the pituitrin. We have had two cases where it brought a head through where the forceps had failed.

Question: That was in the hands of an expert, was it not? (Referring to Dr. Neale's case.)

Dr. Rowland—Yes.

Of course, one must be sure that there is no serious obstruction to the passage of the child before using pituitary extract. My opinion is that the one question now to be settled in the matter of pituitary extract is, whether or not one may use it to induce labor in pre-eclamptic and nephritis cases.

AUTHORS' ABSTRACTS.

Surgery, Gynecology, Obstetrics, and Genito-urinary Diseases.

Final Plea for Inactive Medical Reserve Corps. By H. C. Coe, Washington, D. C. Military Surgeon, December, 1914.

The author announces that his plea is absolutely free from any personal interest. His constant effort has been for the benefit of the entire Medical Reserve Corps. He speaks of the flourishing condition of the organization in New York, which has 130 members enrolled, several of whom have been on active duty. He speaks of the disheartening indifference of Washington to the most earnest pleas for the encouragement and instruction of the Medical Reserve Corps. He tells what a prompt and general response the corps gave at the call to duty during the late Mexican crisis and the earnestness and devotion they displayed. His plea is for more chance for practice-work for the corps, placing them on the army register as is done with the Naval Medical Reserve Corps; change the objectionable title "Inactive" to "Unassigned," as in the Navy, and in every proper way make the position attractive. He warns that unless the corps has more encouragement good men will resign and no desirable successors will take their places.

In spite of his personal pleas to the Surgeon General and to the Chairman of the Congressional Committees on Military Affairs, practically nothing has been accomplished. He says the Surgeon General thinks that perhaps some of the corps may go to militia camps next summer, entirely at their own expense.

[There is no prospect of the Medical Reserve Corps of the United States Army being placed in the Army Register, or of having the obnoxious term, "Inactive," dropped. The Adjutant General gives no reason for this decision.]

Data Obtained Through Correspondence With Nine Hundred General Practitioners and Surgeons Relative to the Diagnosis, Treatment and Classification of Acute Appendicitis. By Frank D. Smythe, Memphis, Tenn. Memphis Medical Monthly, December, 1914, pp. 1108-1122.

First—Seventy per cent of the general practitioners in this territory regard acute appendicitis as a strictly surgical disease.

Second—Twenty-nine per cent regard the disease as surgical, but are opposed to operation for primary attack.

Third—One per cent only were opposed to operation under any and all circumstances, for appendicitis.

Fourth—One hundred per cent of the surgeons addressed regard the disease as strictly surgical and advise operation as early as possible after diagnosis.

Fifth—Cases of acute appendicitis operated upon within the first twenty-four hours after onset of symptoms by a competent surgeon, no mortality.

Sixth—The pain, nausea and discomfort incident to the affection may be modified by the use of medicine given internally and applied locally, we all agree. On the other hand, we all agree that the course of the disease is not influenced by such remedies and that 24 per cent plus die when subjected to the so-called medical treatment, while practically no mortality results in cases treated surgically during the early stage of the affection. Correct diagnosis can be made in the great majority of cases within twelve hours after onset of symptoms.

Remedy offered by the essayist for a no-death rate in acute appendicitis:

The subject should be taught in medical colleges to medical students by those teaching in the surgical department only.

A Rare Type of Bladder Ulcer in Women: Report of Cases. By Guy L. Hunner, Baltimore, Md. Transactions Southern Surgical and Gynecological Association, December, 1914.

The author contrasts eight cases of simple chronic ulcer of the bladder with those of the Fenwick type.

These ulcers are classified as simple because of an absence of a demonstrable source of origin and because of the histologic picture of the excised ulcer.

They have all been located in the vertex of the bladder wall as contrasted wtih the Fenwick ulcer on the base.

On cystoscopy they are easily overlooked. Noticed by seeing one or two extra pale white scar areas. Beside the scar area is seen a slightly hyperemic spot. On touching this it readily oozes blood. At times the stretching of the granulating area incident to the ballooning of the bladder in the knee breast posture causes a slight ooze and makes the area more easily found.

These ulcers at times extend through all the coats of the wall and involve the peritoneum in thickening and adhesions.

Clinically they are characterized by pain, discomfort, frequency, strangury, and loss of rest at night, together with their resistance to treatment.

The urine in all was macroscopically clear. Centrifuged specimen revealed in each case a few leucocytes and a few red blood corpuscles. In no case was there bactinuria. The ulcer may temporarily heal on the surface, when the urine becomes free of pathological elements until the surface is again broken. But one patient of the series had ever noticed blood in the urine as contrasted with the Fenwick ulcer, in which the most important feature is hemorrhage.

The diagnosis is fully established only after a failure to heal under ordinary forms of treatment, when excision of the inflammatory area with the entire subtending bladder wall results in a prompt recovery.

Method of Distending Veins of Fore Arm Preparatory to Intravenous Infusion or Salvarsan Administration. By A. F. Hoge, Ft. Smith, Ark. Surgery, Gynecology and Obstetrics, December, 1914.

The method consists in the use of an inflatable rubber bag four inches in width and long enough to encircle the arm, with a tube attached leading to a hand pump with a screw escape valve. The band is placed in position around the arm, well above the site of insertion of needle or canula, and all may be covered with sterile towels.

Inflation and deflation of the bag is accomplished by the nurse as directed, inflation with the hand pump, deflation with the screw escape valve, the pressure around the arm produces a venous stasis and any desired degree of distention of obstructed veins may be produced. When the needle or canula has been inserted, the nurse turns the screw escape valve, releasing pressure and permitting re-establishment of the venous flow. The solution may then be permitted to flow in as rapidly as is desirable.

The advantages claimed for the method are: That the degree of distention is easily controlled. That there is no fumbling with knots, jarring arm and displacing the needle. That there is no danger of displacing the needle when the obstruction is released. That there is minimal danger of injuring the intima of the obstructed vessels.

Pessimism Concerning the Treatment of Cancer. By John T. Moore, Houston, Texas. Texas State Journal of Medicine, January, 1915, pp. 372-375.

That cancer is on the increase is pointed out—possibly because more people live to reach the cancer age.

The changing of the attitude of the profession and laity as to the curability of tuberculosis is cited as being worthy of repetition with regard to cancer. The laity now have a decidedly pessimistic attitude, the prevalent feeling being that surgical treatment but hastens the end. The general profession seems to have this same attitude. There exists quite a discrepancy between the optimism of advanced students of cancer and the pessimism of the average general practitioner.

The statistics of the Cancer Commission of Pennsylvania are quoted to illustrate that the difference in views is to be attributed to the bad results of temporizing with cancer, which habit is firmly ingrafted on the bulk of family practitioners. The statistics quoted snow that much of the loss of life from cancer is preventable, and that it is advisable not only to educate the people concerning the early symptoms of cancer, but it is even more important that the doctors themselves be educated to know how to diagnose the disease while in its incipiency.

Summary.—Cancer is a local disease primarily. Cancer must be diagnosed early while in the curable stage. The case must be properly treated. A realization of the danger of a waiting policy in cancer must be attained. The lessened likelihood of permanent cure from improper treatment and the absolute necessity for radical treatment cannot be too strongly emphasized.

Pathological Vaginal Discharges. By T. S. Field. Jacksonville, Fla. Journal of the Florida State Medical Association, December, 1914, pp. 165-168.

Vaginal discharges other than normal menstruation, normal lochia, and mucous discharges coincident with pregnancy, are abnormal and should be treated as such. They all have a pathological basis in plain sight, or at least palpable.

All patients with vaginal discharges should be thoroughly examined macroscopically and discharge microscopically, lest incipient cancer and chronic gonorrhoea be overlooked and later give rise to serious trouble. It is safe to suspect gonorrhoea as the basis for every vaginal discharge until the contrary has been proven.

Curettage by itself is never indicated in treatment of leucorrhoea and usually does irreparable harm. Endometritis per se, one of rarest diseases that the gynecologist has to deal with and probably incorrectly diagnosed and curettage advised by the general practitioner as often as malaria is diagnosed incorrectly. Causative factors of leucorrhoea in the virgin are filth, debility, acute contagious diseases, masturbation, erosion of the cervix, polypi, and, rarely, hyperplastic endometritis, and tumors. Diagnosis made by exclusion. In the non-virgin, and especially parous women, so common as to be almost universal. Causes, in order of frequency, lacerations, gonorrhoea, misplacements, salpingitis, and new growths. Leucorrhoea due to laceration only permanently cured after repair of laceration.

Iodine our best agent in treating these conditions. I have found vaccines not to be depended upon. Changing reaction of vagina seems of some value in treatment. In the terribly offensive discharge of inoperable cancer, fixation with acetone, and zinc chloride tampons give best results in checking secretions and eliminating odor.

No doctor does his duty if he allows a patient complaining of leucorrhoea, to leave his office without having been thoroughly examined, or if examined, without taking slides for microscopical diagnosis.

Syphilis of the Innocent. By J. L. Kirby-Smith, Jacksonville, Fla. Journal of the Florida Medical Association, January, 1915, pp. 193-196.

In an address before the annual meeting of the Florida Dental Association the writer called attention to the importance of a prompt recognition of syphillitic lesions in the mouths of dental patients. That in all stages of syphilis lesions are encountered in the oral cavity. It was his opinion that ultimately, with the treatment now used for the disease, injections of the new arsenical preparations, there would be an increase in the number of cases of innocent syphilis due to the feeling of security that patients have received by the over enthusiasm by some members of the medical profession. The different ways by which syphilis is innocently contracted were mentioned, and attention called to the fact that this phase of the disease was the most dreaded, as well as productive of the most intense infection before being brought to the attention of the physician.

(Authors' Abstracts continued on page 129.)

RAILWAY SURGERY

FIRST AID TO THE INJURED.

By Lucius E. Burch, M.D., F. A. C. S.,
Chief Surgeon T. C. Railroad, Professor Gynecology, and Dean of Medical Department, Vanderbilt University. First Lieutenant (M. R. C.) U. S. Army.
Nashville, Tenn.

The management of this condition is so simple and easy that the profession, as a rule, does not realize its importance. Many cases terminate fatally or develop dangerous complications as the result of meddlesome manipulation or excessive treatment following the receipt of the injury. Military surgery has demonstrated to the profession the wonderful results of proper first aid treatment, and railroad surgeons will do well to profit by their experience. Captain Leon C. Garcia, of the Medical Corps, U. S. Army, in the Journal of the A. M. A., January 31, 1914, contributes a valuable article on "The Practical Application of Military First Aid in Railway Surgery." A special train carrying 177 officers and men on October 19, 1913, plunged through a trestle in Mississippi, taking three cars and the structure to the ground below, a distance of thirty-five feet. Fifteen soldiers were instantly killed and two more died within two hours. All of the survivors received some form of injury, showing one hundred per cent injured. Capt. Garcia says: "When it is considered that all these cases were primarily handled by the hospital corps men alone, that none were lost from hemorrhage, that only one case terminated in infection, and this the only one infected, it shows the high efficiency of the hospital corps men in emergency work, and the remarkable results obtained by the intelligent application of the first aid dressing and the free use of the tincture of iodine in open wounds of any character. The results of the application of the principle of military surgery to railway injuries are fully as gratifying as those obtained by their use in the treatment of gunshot wounds." In order that first aid treatment may be efficiently carried out, it is necessary that the train crews be given instruction in first aid treatment. It is also essential that every passenger train, and the caboose on freight trains, carry a limited number of first aid packets. A few small boxes of soda should also be carried to be used in cases of burns. I am glad to say that a number of railway systems have already adopted this or a similar plan. There are many other railroads who have made no provision for first aid treatment. The plan of the El Paso & Southwestern is a good one. It distributes to all of its employes pamphlets containing instruction on the first aid to the injured. It is not a great task to educate the train crews on this subject. It is remarkable how much interest they will manifest, and how quickly they will master the important points. Only a few lectures are necessary to make them understand that an injured person must be kept in the recumbent posture, that all open wounds must be covered by the dressings in the first aid packets, exercising great care not to let the fingers touch the gauze. The application of a tourniquet in hemorrhage from an extremity and the necessity of keeping a patient with a fractured limb perfectly quiet until medical aid arrives are points to be emphasized. The conductor in case of an accident should at once assume charge, and not only give the necessary orders in regard to signals and the report of the wreck to the nearest station, but he should also personally superintend the applications of the dressings to the injured. He must see that the injured are not

Read before Southern Medical Association of Railway Surgeons, Auxiliary to Southern Medical Association, Richmond, Va., November 9, 1914.

annoyed and frightened by the over-excited and anxious passengers. He should see that stretchers are gotten ready for the transportation of the injured. These are easily improvised by cutting down two saplings of the required length and tying blankets over them. A very good stretcher can be made by using the poker and cinder hook from the engine and threading them through the sleeves of two coats. Black coffee, hot, should be given to all who are shocked. This remedy even in remote districts can be obtained from near-by farm houses. Whisky should not be used, for the reason that if an anaesthetic is necessary, it not only causes the patient to struggle during its administration, using up what little strength he has, but also making it necessary for more of the anaesthetic to be used.

It is the duty of the local or division surgeons to assume charge immediately on arrival. They should superintend the transportation of the injured to the relief train, apply temporary splints and dressings to those that have not already received attention from the crew, and administer anodynes and stimulants to those cases that are in need of such remedies. The less that is done beyond the simple remedies mentioned the better. For the relief of shock, morphine hypodermically is indicated. I consider this the best first aid remedy for the relief of this condition. It has a tendency to overcome the anxious frame of mind that nearly all injured persons experience, relieves pain and dissipates the shock. The more active measures, such as hypo or enteroclysis, or the transfusion of blood, should not be used until after the injured arrive at the base hospital. The best car for the transportation of a large number of injured is an ordinary baggage car with cots placed in rows and fastened to the floor. Each cot should have two planks, about twelve inches wide, placed at a short distance from the head and foot. These planks should extend from one side of the cot to the other and lie just under the wire springs. Their object is to prevent the vibration of the train from shaking the patient. It is a very difficult matter to place a patient who is on a litter in either a Pullman or a day coach on account of the vestibules, the narrow aisles, windows or doors, all of which is obviated by the use of a baggage car. No attempt at the scene of accident to operate or to reduce fractures should be made. The more simple the treatment the less likely are we to have complications and the better will be the permanent results. It is necessary for a railroad to be prepared at all times for a wreck, for it is only by preparedness and education of the crews that first aid treatment can be intelligently applied. Such simple remedies as hot coffee as a stimulant, morphine for the relief of pain or shock, tincture of iodine as an application to raw surfaces, soda for burns, are procurable in almost any community, and in the great majority of cases will be all that is absolutely necessary.

I desire in conclusion to emphasize the necessity of railroads carrying on all passenger and freight trains first aid packets, and the education of all their crews in their application. It is equally important that railroad surgeons realize the harmful effect to the injured of too zealous treatment at the scene of accident.

THE INSTRUCTION OF RAILWAY EMPLOYES IN THE PRACTICAL APPLICATION OF FIRST AID TO THE INJURED.*

By J. M. Salmon, M.D.,
Ashland, Ky.

As a general principle, the importance of rendering efficient and prompt aid to injured persons is universally conceded. The natural impulse to succor the unfortunate victims of accidental or intentional injury—an impulse which has been observed frequently even

*Read before Southern States Association of Railway Surgeons, Auxiliary to Southern Medical Association, Richmond, Va., November 9, 1914.

among the lower animals—finds its expression among men in the formation of first aid societies, such as the St. John Ambulance Association and the Red Cross.

In military and naval life these organizations have developed the highest degree of efficiency, and have been the means of relieving untold suffering, preventing deformity, and saving life. In civil life, though in a less degree, much good has been accomplished by the prompt action of those trained in first aid work. The most conspicuous and extensive movement to disseminate a knowledge of first aid methods is that of the National First Aid Association of America, whose honored head was Miss Clara Barton. Through the agency of this organization classes have been formed and trained in nearly every community of importance. But nowhere is first aid instruction more desirable—nay, more imperative—than in railway service. The constant increase in the weight and speed of trains, the complexity of the system, defective track and night operation are conditions conducive to frequent and serious accidents. Moreover, since these accidents commonly occur at points remote from hospitals and surgeons, much valuable time is lost before skilled attention to the injured can be obtained. Hundreds of lives are lost annually because hemorrhage was not checked or because wounds were infected through lack of a simple aseptic dressing.

In the face of these facts, which are matters of common experience with us all, is it not remarkable that so little attention has been paid to the systematic instruction of railway employes in the application of first aid? Mining companies are much more alive to the importance of this matter than are the railway companies. Nearly every large mining company has a well equipped surgical department, and the employes are drilled in the first aid measures peculiarly adapted to mine accidents. In this connection, it is a significant fact that nearly four times as many railway men as miners die from their injuries.

Estes* says: "I believe that the lack of proper first aid appliances and a proper surgical organization on most railroads in the United States (those of the East are especially lacking) are, to a very great extent, responsible for this increased loss of life. . . . It is not too much to say that hundreds of men injured on the railroads every year die from pure neglect."

The importance of prompt and efficient first aid as a matter of humanity and of economy is obvious. To the railway company it means a reduction of litigation and damage expense. To the surgeon it means a minimum of trauma and infection, better surgical results and a lower mortality. To the public it insures the greatest degree of safety in travel. To the injured it brings relief from suffering and the saving of life and limb. For some reason first aid instruction of railway employes has been neglected. Here and there men have been trained and accident packages supplied. In a few instances both equipment and training have been satisfactory. But there has been no uniformity, and therefore little change in the general condition of inefficiency.

First aid service requires (1) an adequate equipment of dressings and appliances, and (2) trained workers. The first requirement can be met very easily by supplying to all trains, stations and shops the standard first aid cases and stretchers. A satisfactory accident case contains two rubber tourniquets, a sufficient number of packages of aseptic gauze compresses (plain and picric acid) with bandages attached, roller bandages and zinc oxide adhesive plaster. The second requirement, trained workers, presents a problem more difficult of solution.

Fifteen years experience in railway surgery, including the instruction of first aid classes, has convinced the writer that a radical departure must be made from the well-known methods if employes are to be trained to do good first aid work.

In planning a course of instruction for railway men several fundamental principles must

*Estes, W. L., Keen's Surgery, Vol. V, p. 945.

be accepted as a basis: First, the course must be adapted to the intelligence of the pupils. The latter are often men of meager education. Their minds have not been trained to study, and to them the well-known text-books of Morton, Hartung and Dickson are bewildering and discouraging. The instruction of these men is best accomplished by illustration and by practical demonstration. In this way they learn first aid methods just as they learn their regular railway duties, namely, by observation and practice.

Second, the course should be limited to subjects essential in railway emergencies. More than this means waste of time and imposes a burden which soon results in lack of interest.

Third, lessons should not last more than one hour, and should not be given more frequently than once a week. Long lessons prove irksome. Too frequent lessons result in poor attendance.

Fourth, attendance should be compulsory. First aid instruction should rank with air brake and other technical training in this respect.

Fifth, certain classes of employes should be selected from each department for first aid instruction. These should be engineers, firemen, conductors, brakemen, yard foremen, shop foremen and station agents.

The course should be given by the local surgeons at a convenient hour and at a central meeting place. The Y. M. C. A. is an admirable place for this purpose, and the secretaries are always willing to co-operate as assistants. A teaching equipment should be provided consisting of a blackboard, large charts illustrating the essential anatomical points, a good supply of the standard dressings, tourniquets and stretchers. A boy should be engaged as a model for demonstrations, or the pupils may serve as models, but the former plan is better.

In planning the course it is necessary to bear in mind that it is not possible to make surgeons of railway employes, neither is it reasonable to expect them to become proficient anatomists, physiologists nor toxicologists. It *is* essential that they be able to apply a first aid dressing to a wound; to control hemorrhage, and to transport patients safely and carefully from the scene of the accident to a place of safety. Little more than this will ever be required.

The first aid courses of the text-books are entirely too extensive for use among railway employes. The chief obstacles to the general adoption of first aid methods on the railroads are lack of a simple, practical course and lack of standard accident cases. The following outline of study is suggested as being adapted to the railway service:

(1) Surgical cleanliness, with simple explanation of wound infection.

(2) Wounds, especially those commonly received in railway accidents.

(3) Hemmorrhage and its control.

(4) Burns and scalds.

(5) Application of dressings, with practical demonstration.

(6) Fractures, their recognition and the application of emergency splints.

(7) Transportation of injured persons, with demonstration.

(8) Asphyxiation, with demonstration of artificial respiration.

The course should be taught in simple language, and should be illustrated by demonstrations and by charts. All technical terms should be avoided. The examination at the conclusion of the course should be oral and demonstrative—never written—and a suitable certificate or emblem, or both, should be given to each successful candidate.

The adoption by railway corporations of this simple plan of instruction of employes, together with the equipment of standard first aid cases, would constitute an important step toward the reduction of mortality and the prevention of permanent deformity.

DISCUSSIONS, PAPERS OF DRS. BURCH AND SALMON.

Dr Thomas H Hancock, Atlanta, Ga There are only two points I wish to mention. The first doctor did not mention how to use bicarbonate of soda on burns. It is made up into a loblolly with sterile water and smeared over the burns and then covered up with gauze and cotton.

and it is the best thing in the world to relieve the pain.

Another thing I wish to take issue with the doctor on, and that is in the use of whisky. It is not a stimulant and does not raise the blood-pressure, but take a crushed foot or hand or leg, after the tourniquet has been put on. I believe it is a good thing to make that man drunk. If you have to carry him thirty or forty miles I believe in filling him up on whisky—good whisky, if you can get it; if not, bad whisky. It is the only safe narcotic a railroad man knows how to use, and it will do much to lessen pain. Of course, if you can get a doctor, he should receive a hypodermatic injection of morphine instead, and the maximum dose of this should be one-quarter of a grain. If this does not relieve the pain he should have chloroform. The whisky should not be given if there is any great injury to the head.

Dr. Clarence H. Vaught, Richmond, Ky.: We, in Kentucky, are, in some respects, like the condition of Georgia, as related by Dr. Hancock. We are dry in spots, but I cannot believe, while opposed to every form of prohibition everywhere, that whisky ever did a traumatic injury the slightest good in any way, when given internally. I do believe, however, that if the whisky which Dr. Hancock speaks of using so freely were applied to the wound and not put into the stomach of the injured, that his chances for recovery would be about ten times increased. I suppose that Dr. Hancock goes on the theory that you cannot kill a drunken man. This, too, is a mistake, for occasionally they are killed—maybe not by doctors.

Dr. Hancock: It is for pain only.

Dr. Vaught: It is deadly, given to an injured man.

The great subject of first aid to the injured is extremely interesting. Both papers were of a very high order, I think. Having had the pleasure of knowing quite intimately one of the essayists, Dr. Salmon of Ashland, for several years, I know that he has given this subject much thought and his paper carries with it, to me, much evidence that is worth while. He not only writes but speaks as a man who has something to say, and who has the ability to say it. The paper of Dr. Burch was also well done.

The most important factor in the treatment of traumatic conditions is eminently first aid, and those who are in the very best possible position to know this and to advocate that it be well done are railway surgeons. It seems a simple procedure, and it is, if we know how, and will remember that we are dealing with an injured man and one that is entitled to just as good and careful attention as any case we might have in our private practice. We spoke of cleansing these wounds with gasoline, and it acts better than anything that I have used. If, however, you haven't time for this, simply apply a liberal coating of iodine, either pure or half dilution. If nothing better is at hand use the tea shaker in the wound, not in the patient. Above everything, however, stop the bleeding. Use the tourniquet. If nothing else is at hand, use a string or anything, just so you stop the bleeding artery, until you can reach the hospital or some other place where the injuries can be better attended to. I have seen a case recently whose leg had been amputated by two fairly good surgeons. The wound evidently had not been properly cleansed, no iodine or alcohol had apparently been used, sloughing and secondary hemorrhage was the net result, then the exposure of both bones below the knee. Evidently it would have been better to have done nothing for this man than what was done. The posterior tibial artery was ligated by me in open wound without an anesthetic, which was necessary to save the life of this man, there being nothing but a clot, before this was done, to keep him from eternity. These railway cases nearly all slough and become more or less infected. We expect this. We also expect that the surgeon who uses the first aid dressings take some precautions at least. We have one man doing surgery in my country who I think believes in cotton batting—just the plain kind that we get from our dry goods stores. He usually puts about two pounds over a badly lacerated leg or arm, ties this up with a bandage and trusts the Lord for the rest. Sometimes the Lord saves these patients, but usually they are lost, from loss of blood.

Nothing has been discovered, in my opinion, in a quarter of a century that is of more real worth to railway surgery than iodine applied before first dressing. Subsequent dressings, with me, have been a strong solution permanganate of potash. It is the most ideal of all dressings that I have ever seen—deodorizer, astringent, antiseptic, healer—it is all that a dressing should be, without having a single objectionable quality. I use this wet, with dry dressings over the wet permanganate. My results have been such that I would not discard it at all.

These are vital things to railway surgeons. Such matters as these are worth much to us.

These are the most important matters that we could discuss for the benefit of railway surgeons, and for the relief of those who are injured.

Dr. J. W. Hanley, Nashville, Tenn.: What Dr. Vaught said I presume was directed to the doctors, and I agree with him thoroughly in all that he says. I believe, however, it is the duty of the surgeons to give the instructions to the employes in a little bit different light from what Dr. Vaught has said. In other words, I instruct them not to wash the parts—the men who have taken charge of the case at the time. I do not want them to get a lot of dirty water in dirty pans and probably infect the patient's wound before I can take care of it. I tell them just to leave the blood on and wrap that arm or hand up just like it is and send it to our hospital. I believe there would be less damage and less danger to the patient in that way than if they tried, in their ignorant way, to cleanse that wound. Of course, we understand how to cleanse it when it comes to us. They do not.

I have paid a great deal of attention to the first aid to the injured in the last few months, and have given a number of instructions and lectures along that line. I find that our employes will pay a great deal of attention to any thing we say to them. We take them in squads—thirty or forty at a time. You cannot get them all at one time, because some are on the road and

some in the shops. I take them in the afternoon, lecture to them and show them how these dressings are applied.

We have equipped our cars with first-aid packages in every baggage car and every caboose car that goes out, with a switch key to it, and it is kept locked, but every man with a switch key can unlock it and get the package. Any brakeman or anyone else connected with the road can do it. It is necessary to have it locked, because they would be stolen, and by the time you got out on the road your box would be emptied, probably of all your first-aid packages. These packets are very cheap. You can put twelve or fifteen in a box, and they cost from twelve to fifteen cents apiece. You can teach a man how to apply the antiseptic gauze and handkerchief bandage in these packets to the injured limb until he can come to you. You can just have him ready for you when he gets there, and that is what you want, and I think the interference by these ignorant people (in a surgical way) will do harm at all times.

I like the soda idea Dr. Burch has suggested. I also like the carron oil. It is very soothing to an extensive burn. I have shown them how to use that. I believe it will be the duty of local surgeons along the different roads where they have a large number of men at work to instruct them how these cases should be handled.

Dr. C. S. Hoffman, Keyser, W. Va.: I was very much interested in the papers and discussions on burns and first dressings in railway accidents. I would like to say that in my opinion, carron oil is the dirtiest dressing that was ever put on a wound. It is filthy and no one should use it. It is a thing of the past. In my hands there is nothing better to dress a burn with than bicarbonate of soda. I always use it. I take about two or three parts of lard, and one of soda, mix them together and spread on strips of old muslin and apply to the burned surface. Don't be stingy in its use. You will notice that the intense suffering will begin to be relieved in something like thirty minutes. I had a demonstration of this a few days before I came here. I feel sure that the bicarbonate of soda is one of the very best dressings you can use, and as there is always a lot of confusion around a burned patient, and a lot of officious women, who are always trying to be in the way in their attempts to be doing something, these I put to work. I have some to get the soda, another the lard, some others to get the muslin cloths, and others to get bandages. By this means they are kept more quiet, all are employed, and the confusion which is generally present is, to a certain extent, prevented. How long would I keep the first dressing on? I would say two or three days. For how many days would I continue the soda and lard dressings? Say four or five days or longer.

The picric acid treatment, which has been advocated here, is one of the most painful dressings which can be applied to a burn, and should never be used unless you have a grudge against the patient and wish to punish him; then use it. The aseptic treatment of burns is unreasonable, and he who attempts to treat burns by this method will get for his effort a red, inflamed and painful surface, with scarcely any tendency to heal, and lots of albumen in the urine, and finally a weak and irritable patient. Burns will not heal satisfactorily when you use too much antiseptic treatment. After the acuteness is past, nothing equals the open treatment, with the daily dusting of a dry powder.

As regards the first dressings of open wounds, much has been said here about washing the parts with soap and water. My experience has been that in washing the parts around an open wound with soap and water, one is likely to wash into the wound more dirt than is washed out, and may make a wound septic which probably was aseptic. I would suggest that when a doctor is called to a railroad accident, that he should apply at once, to all open wounds, a liberal piece of absorbent cotton saturated with a one-thousand bichloride solution, over this another piece of dry cotton and then a bandage. This will practically eliminate any further infection. Bearing in mind the fact that a wound done up with the dry cotton as contained in the usual emergency box is not a sterily dressed wound. As regards the use of Tr. iodine, which has been strongly advocated here, I would say that it is one of the very best antiseptic applications known. But there are some things in connection with its use which we must observe. One is that iodine and bichloride of mercury cannot be used at the same time, or blistering of the parts will result. Another thing is that if you expect to use iodine successfully, you should not use soap and water immediately beforehand, as the water swells up the skin surface with its glands and prevents the penetration of the iodine, which is one of its requisites. With the application of Tr. iodine liberally to the dry surface around the wound, and into the wound, without any shaving or washing, I have repeatedly amputated limbs, wired and Lane plated compound fractured bones, with most satisfactory results.

The idea as expressed by one here to get the patient practically drunk with whisky as soon after the injury as possible, is probably bad advice and not in accord with sound teaching or wide experience.

Dr. W. F. Smith, Little Rock, Ark.: I wish to compliment the writers of these two papers as being practical throughout.

I wish to line up with those who believe in the outside application of whisky, because it is the only place in which it does any good, except in about a teaspoonful dose, and a railroad man does not take it in that way.

With reference to what the last speaker said about applying to lacerated or raw surfaces wet cotton—wet in bichloride solution—that may be all right when you are putting it on, but when the patient gets to the hospital and the cotton has dried out and stuck, it is a difficult matter to take it off, and if you are going to put on such a dressing, I would put on a normal salt solution, put a layer of gauze over the lacerated surface first, then the cotton, and you can get the dressing off without trouble.

In our "First Aid" instruction, we make use of the surgical packages, the first aid packages, and our instruction is that the sterile gauze shall be put on without any washing whatever, just right on the lacerated or wounded surface.

In that connection we also have brought about a "Safety First" agitation, which is, I think, allied to this subject of first aid, and in connection with the first aid and the teaching of the "safety first" principles, it has resulted in a very material and gratifying reduction in the injured in the course of a year.

Dr. Hermann B. Gessner, New Orleans, La.: In regard to the matter of artificial respiration, there is a new method. It is called the "Prone Pressure Method," and is also called by the name of the originator, "Schaefer," of Edinburgh. In this method the patient is put face down on his chest and abdomen and the weight of the operator is allowed to fall on the outstretched hands placed over the lower ribs. You can in this way get a better emptying and refilling of the chest. I desire to direct your attention to this prone pressure method.

Another thing in regard to sterilization in first aid. I wish to take issue with those gentlemen who do any cleansing whatever, whether with soap, gasoline or anything else.

In the Charity Hospital of New Orleans we look after a great number of machine injuries. Our custom is to take a bottle of tincture of iodine and pour it over the wound. The iodine finds its way into the depths of the lacerated wound, and at the same time fixes the dirt on the outside of the wound. We have had good results from this treatment.

Any method of scraping about on the surface involves the danger of carrying infection into the wound.

Dr. L. E. Burch (closing discussion on his part): I wish to thank the gentlemen for their very kind discussion.

My idea of the treatment of first aid is to make it as simple as possible. The less we do, the better results we get. I believe that a man who attempts to scrub a wound that is due to a railroad accident is almost guilty of malpractice. There is nothing to be accomplished; there is a great deal of harm that may be done; you simply push in the material around the wound and remove absolutely nothing. In other words, you do more harm than you do good.

I believe that the application of soda is probably the best remedy for burns. It certainly relieves the patient. The soda should be made into a mush and put on, and then the first aid package over that.

In an ordinary accident the employes should be trained to cover over the raw surfaces with the first aid packets, then the patients can be removed to the base hospital for further treatment.

In case of compound fracture as little should be done as possible.

I do not like the bichloride method of treatment in these cases. I think the application of iodine is better. The wound should then be covered with the contents of the first aid packet, immobilized in as simple a way as possible and then sent to the base hospital.

As to whisky, I wish to emphasize my position again. There is nothing more confusing, so far as diagnosis is concerned, than to have a man brought in that is drunk. We do not know whether his condition is due to the injury or to the alcohol that he has imbibed.

Whenever you give a drunken man an anaesthetic, that man is going to struggle and use up what little strength he has left. In addition to that, the more whisky you give them the more anaesthetic will be required, and that may be the straw that will break the camel's back.

Question. What do you give for pain?

Dr. Burch: Morphine.

Question: A layman cannot give that?

Dr. Burch: No.

Question: Are you going to let him suffer those thirty miles?

Dr. Burch: No, the first aid bandage is placed on by the train crew and a local surgeon along the road can give the morphine, but if you give your employees instructions to give whisky, they are all going to do so, and the patients are going to be brought in "half shot."

The greatest offenders we have in the rendering of first aid to the injured are the doctors, and if they would simply apply iodine and then put on the first aid bandage, it would leave their patients in good condition.

Dr. J. M. Salmon (closing discussion on his part): Gentlemen, I have very little to add to this discussion. I thank you for the reception of the paper.

I would have liked a little more discussion on "Standard First Aid Dressing," that nothing may be left to the discretion of the employes. Let's give them a standard dressing and train them to apply the dressing, and what to do and what not to do, so there will be no misunderstanding in the matter.

My paper considered the **instruction of the employees**, and not the instruction of the surgeon; therefore, much of this discussion is not relative to the paper.

EYE, EAR, NOSE AND THROAT

SCLEROCORNEAL TREPHINING IN GLAUCOMA.*

By W. H. Wilmer, M.D.,
Washington, D. C.

Theses upon sclerocorneal trephining have been numerous of late. The subject is a recent one, and the procedure has to endure the future test of the Supreme Court of Time.

The histories of even a few cases that have been carefully followed are valuable in enabling us to give to this operation its proper place in ophthalmological therapeutics.

The following cases represent twenty-six eyes of sixteen persons. Twelve patients had both eyes operated upon. Of this number, nine had both eyes trephined at the same time.

The notes in regard to vision, fields and tension are the results of examinations a short while before operations, and of the latest examinations after operations. The eyes of every patient except one were under the influence of a miotic at the time of the examination preceding the trephining. The vision in all instances represents the best sight, with a careful correction of the refraction error. In all cases, miotics were given a fair trial before resorting to operation, and the trephining was not advised except in those cases of persistent over-tension, with impairment of sight, or contraction of field.

Case I.—Mrs. E., aged 56. R. E. absolute glaucoma. L. E. chronic glaucoma, with acute exacerbations. R. E. V.=0. L. E. V.=20/20. Tension, R. E.=58°. L. E.=26°. L. E. field, normal. During acute attacks, vision reduced to counting fingers. A LaGrange on the right eye (blind eye) reduced the tension to 20°. Later, the tension in left eye, between acute attacks, increased to 35°, in spite of miotics. A second LaGrange on the left eye reduced the tension only temporarily. On May 11, 1913, trephining of the left eye without iridectomy, to the nasal side of the site of the former LaGrange operations. July 13, 1914, L. E. V.=20/20. Tension, 8.5°. Field, normal.

Case II.—Dr. N., aged 28. Myopic. R. E., secondary glaucoma and cataract following traumatic irido-cyclitis. R. E. V.=p. 1. Tension, 35°. Field, contracted. May 27, 1913, R. E., trephining with complete iridectomy. June 17, 1913, extraction of cataract. December 22, 1913, R. E. V.=improved light perception. Slight improvement in field. Tension=10°. Eye comfortable.

Case III.—Dr. H., aged 58. R. E., absolute glaucoma, following retinal hemorrhage. Eye very painful, with repeated corneal ulcerations. Vision =0. Tension, 70°. High blood pressure. June 3, 1913, R. E. trephining with complete iridectomy. Slight loss of vitreous. Healing smooth. November 3, 1914, no further corneal ulcerations. Eye quiet and comfortable. Very soft slight depression of globe at site of wound.

Case IV.—Mrs. H., aged 48. Both eyes, chronic. simple glaucoma. R. E. V.=20/20. L. E. V.=20/50—. Tension, R. E.=31°. L. E.=42.7°. Fields, contracted. June 24, 1913, L. E. trephining. Peripheral iridectomy. December 30, 1913, R. E., trephining. Small peripheral iridectomy. October 28, 1914, R. E. V.=20/20+. L. E. V.=20/20—. Tension each eye, 13.5°. Fields, greatly enlarged. In the spring patient had severe, acute, contagious conjunctivitis, but recovered quickly without any complications.

Case V.—Mr. H., aged 72. Both eyes, glaucoma simplex. R. E. V.=20/50—. L. E. V.=p. 1. Tension, R. E.=26.7°. L. E.=29.7°. R. E., field much contracted. L. E., small eccentric. June 17, 1913, L. E., trephining without iridectomy. June 24, 1913, R. E., trephining with peripheral iridectomy. October 3, 1913, R. E. V.=20/50. L. E. V.=2/200. Tension, both eyes, 18°. Fields enlarged.

Case VI.—Mrs. W., aged 68. Both eyes, secondary glaucoma, following irido-cyclitis after cataract extraction. Pain intense. R. E. V.=p. 1. L. E. V.=0. Tension, R. E.=36°. L. E.—85°. Fields not measurable. November 11, 1913, double trephining. General anesthetic was used, owing to nervousness and painful condition of the eyes. Both trephinings done to the temporal sides of the corneal wounds. The patient was quickly relieved of pain and the irido-cyclitis subsided. December

*Read in Section on Ophthalmology, Rhinology, Otology and Laryngology, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

9, 1913. Tension, R. E.=8.5°. L. E.=13°. Vision unchanged.

Case VII.—Mrs. B. Both eyes, glaucoma simplex, with floating opacities in the vitreous. High blood pressure, rheumatism and valvular heart trouble. R. E. V.=20/20. L. E. V.=20/40—. Tension, R. E.=25°. L. E.=43.7°. L. E., field contracted. December 2, 1913, L. E., trephining with complete iridectomy. Mild iritis. May 28, 1914, L. E. V.—20/30+. Tension=22.1°. Field enlarged.

Case VIII.—Mr. N., aged 61. Both eyes, chronic congestive glaucoma. R. E. V.=2/200. L. E. V.=6/200. R. E. tension=39.7°. L. E. tension=37°. Marked contraction of fields. Blood pressure=220 Hg. December 23, 1913, double trephining. R. E. peripheral iridectomy and I. E. complete iridectomy. Stitches in both eyes. Healing smooth. No iritis. July 13, 1914, R. E. V.=10/200. L. E. V.=20/200. In both eyes, tension=10°. Fields greatly increased. Acute, contagious conjunctivitis, with no serious complications.

Case IX.—Mr. N., aged 53. Both eyes, glaucoma simplex. R. E. V.=20/20. L. E. V.=20/200. R. E. tension=33°. L. E. tension=57.3°. December 3, 1912, LaGrange performed on left eye. This reduced the tension of left eye to 28° for a year, when it increased to 50°. The right increased to 43°. Fields, only slightly contracted. Blood pressure, 280 Hg. In taking the tension, the indicator moved 1½ points with each heart-beat. December 9, 1913, double trephining. In the left eye, as the drill point entered the anterior chamber, the aqueous welled up through the top of the drill. R. E., complete iridectomy. L. E., iridectomy had been performed at the time of the LaGrange. Stitches in each eye. Healing smooth, but there was immediate and marked chemosis of the conjunctiva of both eyes, more pronounced in the right eye. This did not entirely subside for six days. Mild iritis in right eye. None in left. October 29, 1914, R. E. V.=20/20+. L. E. V.—20/30—. Tension of R. E.=16°, and L. E.=14°. Fields improved.

Case X.—Mr. R., aged 28. Glaucoma simplex in both eyes. R. E. V.=20/30—. L. E. V.=20/20. Tension of right eye=38.3°, and L. E.=32.6°. Fields greatly contracted. December 12, 1913, R. E. trephining. Peripheral iridectomy. Stitches. Mild iritis. December 19, 1913, L. E., trephining. Complete iridectomy. Stitch. Small tear in conjunctiva from collar of drill. Healing smooth. No iritis while in hospital. April 27, 1914, R. E. V.=20/20—. L. E. V.=20/20+. R. E. tension=13.3°. L. E.=9.8°. Fields enlarged. During the summer there was a rupture of the conjunctiva over the trephine wound, which I well described as Dr. C. A. Thigpen, of Montgomery, Ala. This is the only case in which any serious complication has occurred. Fortunately it terminated very satisfactorily, thanks to Dr. Thigpen's skill. I will quote from his letter of November 4:

"He came to consult me during the latter part of August, stating something had ruptured about the left eye and that there had been a free flow of water from it since. Upon examination, I found that the bleb over the site of the trephine opening had ruptured and there was a good, large fistula in the upper part of the cornea, surrounded by a dense ring of scar tissue, probably due to over-proliferation of the epithelium. The anterior chamber, of course, was empty and the eye soft. The conjunctiva and the sub-conjunctival tissue were clear and free from infection. The treatment followed consisted of scraping away the scar tissue as much as possible and using the sliding flap after the method of Von Lint, following extraction of cataract. I am glad to say the result was very gratifying. When he left for home the tonometer showed normal tension and vision in that eye 6/6."

Case XI.—Mr. B., aged 65. Glaucoma simplex of long standing in both eyes. R. E. V.=20/200. L. E. V.=2.200 (eccentric). R. E. tension—43.6°. L. E.=46.2°. December 16, 1913, double trephining. Right eye peripheral and left eye complete iridecomy. Rather severe iritis followed in the right eye, coming on after the patient was well enough to go out. Yielded to usual treatment with leeches to temple. May 16, 1914, R. E. V.=20/200+. L. E. V.=5/200. R. E. tension=10°. L. E.=9.8°. Fields slightly enlarged.

Case XII.—Miss R., aged 45. Glaucoma simplex, both eyes. Vision in both eyes=20/20. R. E. tension=38.2°. L. E.=30.7°. Fields much contracted. December 30, 1913, double trephining. Peripheral iridectomy in each eye. No stitches. No iritis. June 4, 1914, Vision=20/20 in both eyes. R. E. tension=15.7°. L. E.=13.2°. Fields greatly enlarged.

Case XIII.—Mrs. McL. Glaucoma simplex, both eyes. Patient myopic. Over three years previously an iridectomy had been performed on left eye, with temporary improvement. R. E. V.=20/30. L. E. V.=20/50—. R. E. tension=45°. L. E. =47°. Fields much contracted. May 17, 1914, double trephining. Complete iridectomy in right eye. Stitches in both eyes. Recovery smooth. No iritis. November 5, 1914, R. E. V.=20/20. L. E. V.=20/30. R. E. tension=16.1°. L. E.=13.1°. Fields enlarged.

Case XIV.—Miss D. Glaucoma simplex, both eyes. LaGrange had been performed on left eye.

R. E. V.=20/20. L. E. V.=20/40—. R. E. tension =33.8°. L. E.=33.8°. Fields slightly contracted. May 26, 1914, double trephining, operation smooth, except slight tear in conjunctiva of right eye by collar of drill. Complete iridectomy in right eye. A previous iridectomy had been performed in the left eye. Stitch only applied in conjunctival tear. It was noticed that the old LaGrange wound was still draining a little. The drill was applied with the upper edge tangent to the former cut in the sclera. Recovery was smooth. No iritis. June 27, 1914, vision same as before operation. R. E. tension=11.7 . L. E. [illegible]. Fields enlarged.

Case XV.—Miss H. Glaucoma simple, both eyes. R. E. V.=20/70—. L. E. V.=20/20—. R. E. tension=27.8°. L. E.=26.5°. Fields contracted. An iridectomy had been previously performed in right eye. June 9, 1914, double trephining. L. E., small peripheral iridectomy. Stitches both eyes. Recovery smooth. No iritis. July 2, 1914, R. E. V=20/40. L. E. V.=20/20+. R. E. tension, 13.5°. L. E.=9.2°. Fields enlarged.

Six of the twenty-six eyes operated upon had been operated upon previously. In two eyes, there had been an iridectomy; in three eyes, a LaGrange, with iridectomy, and in one eye, there had been two LaGrange operations. These operations had reduced the tension temporarily.

Of the whole number there were two eyes presenting glaucoma secondary to irido-cyclitis after cataract extraction; one case of secondary glaucoma following injury; one case of secondary glaucoma after retinal hemorrhages; two eyes with chronic congestive glaucoma; one case of chronic glaucoma with acute exacerbations. One patient had profuse floating opacities in the vitreous and incipient cataract. The remaining eighteen cases were glaucoma simplex.

A general anaesthetic was used in only two cases where the patients were very nervous and the eyes very painful.

It was noticed that in all cases the pupils that were well contracted by miotics dilated very markedly just before the operation, owing to the nervous strain of anticipation. Stronger miotics had to be used to keep the pupil contracted for the operation.

The operative technique was practically the one used by Col. Elliot, except that the flap was held by forceps instead of being pushed down upon the cornea by a cotton-tipped applicator, for it was noticed that a marked striped keratitis followed the use of the applicator, which did not occur when the forceps were used.

In the earlier cases Bowman's trephine was used, as it was the only one obtainable. In the later cases, Elliot's own trephine, with two m.m. drills, was used.

Usually the disk was removed with scissors. In no case did it fall into the anterior chamber. In two cases there was a slight tear of the conjunctiva by the collar of the Bowman's trephine and not by the cutting edge. No perforations have occurred with the Elliot drill. In only one case was there any loss of vitreous, a blind eye with abolished anterior chamber. Neither lens nor uveal tissue was pushed into the wound in any of the cases. Stitches were used in twelve cases.

In all cases where complete iridectomy was performed at the time of the trephining, or where it had been done previously, atropia (1 per cent) was instilled immediately after the operation. In those cases where a peripheral iridectomy, or no iridectomy at all, was done, eserine (1-20 gr. to fluid ounce) was instilled immediately after the operation, and atropia was used twenty-four hours later.

In eight of these cases peripheral iridectomy was performed; in ten cases complete iridectomy; in one case no iridectomy at all, and in seven cases an iridectomy had been done previously. The question of an iridectomy was determined by the prolapse, or non-prolapse, of the iris into the wound.

In twenty of these cases no iritis followed the operation; in five cases a mild iritis, and in one case a severe iritis. In the cases where there had been a previous iridectomy there was no iritis. In no case was the iritis sufficiently severe to be a serious complication. The iritis was treated by atropia and hot applications. All of the cases of iritis recovered quickly without any rise in tension. Since the

operations four eyes have suffered from severe acute contagious conjunctivitis (during an epidemic), but there was no bad effect.

In one case there was a marked chemosis immediately following the operation which did not disappear for five or six days. This occurred in a patient with very high blood pressure (280 Hg.). This was not due to infection or inflammation of the uveal tract. but it seemed to be the result of a very rapid filtration under the conjunctiva. In cases of very high blood pressure, where the resistance to secretion from the ciliary processes is reduced by a sudden lowering of the intra-ocular tension, the pressure within the vessels remaining unchanged, there is of necessity a very rapid filtration of a fluid of altered chemical composition. Both by its quantity and its nature this fluid is doubtlessly irritating. Boric acid solution for irrigating the eyes twice a day; bichloride salve (1 to 5000) for applying to the cul-de-sac at bedtime, and a solution of argyrol (10 per cent) to be used in case of secretion from the conjunctiva, were prescribed for all of the patients upon their discharge from the hospital.

In regard to final results from the operation, the vision was improved in eighteen eyes while there was no change in the vision of the remaining eight. Of these eight eyes, two had only light perception, and two had no vision, while in four, the central vision was normal. The fields improved in twenty-two cases, and they were unchanged in four. Of the latter, two had no vision, and two merely light perception.

The tension has been under 20° in every case except one, which was 22.5°. In this case the eye is comfortable, while the vision and field have improved. The highest tension recorded before operation was 85°, the lowest 29°. The average tension before operation was 43.2°, and afterward 12.1°. Since operation the tension has not been above 20°, except in one case, mentioned above, nor has it been found necessary to perform a second operation.

The advantages of the sclerocorneal trephining over an iridectomy, or a LaGrange, have been frequently set forth, but an additional advantage in the relative freedom from resulting astigmatism is one of great consideration. It is true that increased intra-ocular tension is only one link in the complicated chain of glaucoma. But it is equally true that this pressure is the great cause of increasing impairment in vision.

In my limited experience, sclerocorneal trephining is the easiest, safest and most effective method of permanently reducing excessive tension in all forms of glaucoma except the acute form, where iridectomy retains its place as one of the most universally satisfactory operations in opthalmological surgery.

DISCUSSION.

Dr. F. P. Calhoun, Atlanta, Ga.: I apply the trephine operation to glaucoma simplex only. Notwithstanding the fact that the results in about thirty-seven cases have been most satisfactory, I had not convinced myself that it is the ideal operation to perform in all cases of glaucoma simplex. Each day we read of latent infections, and in the majority of cases these eyes go to complete destruction. I believe from now on we will learn of more latent infections. I have come to the conclusion that in dispensary practice, where your cases cannot be controlled, where you possibly must do the best that you can for that patient at that time, that the trephine is the ideal operation, but in private practice, where the patients can to a certain extent be controlled, especially to young people, I do not believe it is advisable to perform this operation under thirty years of age except as a last resort.

Personally, in a young person with glaucoma simplex, I should persistently try myotics. With the reduction of the field of vision, then I should advise an iridectomy, and then as a last resort, if the field and vision were still failing, I should do a trephine. It is a rather serious thing I think to allow a young person to go through life after a trephine operation and have the eye in jeopardy of a latent infection with a chance of serious impairment.

It is unquestionably in my experience the best operation we have. In older patients I think it is the operation of choice. But in young individuals with glaucoma I should try other means and use this operation only as a last resort.

Dr. J. A. Stucky, Lexington, Ky.: It seems to me that in the discussion of this topic of trephining and iridectomy for glaucoma we are discussing the treatment of a symptom and are losing sight of the cause of glaucoma. That the cause of glaucoma is yet unknown is a reproach, like that of trachoma, to ophthalmology. Some years ago I contended, and I still contend with more emphasis that it is merely a local manifestation

of a systemic condition. Wherever we have glaucoma we have an increased blood pressure. And in the last four years in a good many of these cases—and I do see a great many cases that are brought in from the mountains—I have gone back to the lost art of blood-letting and gotten good results. Bleed your patient until there is a lowered blood pressure, and then begin to ascertain with the aid of the internist and the laboratory man the cause of the faulty metabolism that is producing that increase of blood pressure.

I followed Dr. Elliott, I assisted him in Louisville, I watched him in Philadelphia and Chicago, and we have tried the trephine, but I fail to see that it has any advantages over the iridectomy, and, like Dr. Calhoun, I think there is a great danger of our meeting after a while with latent infection.

The point I wish to make is simply this, that as ophthalmologists we must go deeper into the cause of the condition that confronts us, and the time has passed when we should treat symptoms alone, and the internist and the bacteriologist and the dietician are giving us wonderful help along those lines.

Dr. R. W. Bledsoe, Covington, Ky.: Dr. Martin Fisher, of the University of Cincinnati, I think comes as near if not the nearest giving us an explanation of glaucoma in his acidosis theory. I want to ask the essayist in closing to state whether or not he has had any experience in using the alkalies in glaucoma? I have tried it and in some cases have found it of decided advantage, associated with the myotics. I recall now just one case in an elderly woman who refused operation, either iridectomy or trephining. In that case I simply loaded her up on sodium bicarbonate internally. I did not attempt to use the Fisher's solution under the skin nor perrectum. The Fisher's solution, as you probably know, is the dehydrated sodium carbonate in solution. In glaucoma Dr. Fisher has certainly had quite a little success, but in ordinary practice the supersaturation, as it were, with sodium bicarbonate, combined with myotics, in my own hands has been fairly satisfactory in some cases.

Dr. Hilliard Wood, Nashville, Tenn.: I have seen Col. Elliot do a number of these operations and have done them myself since he was here.

With regard to the question of anesthesia, I believe Elliot does them under cocaine; Dr. Wilmer spoke of general anesthesia in two cases. I have found, gentlemen, that by giving the patient 1/150 grain scopalamine one and one-half hours before the operation, followed an hour later, i. e., thirty minutes before the operation, by a hypodermic of morphia, 1-4 grain, that I get rid to a large extent of the nervousness and fear on the part of the patient, producing that condition which our general surgeons call the "twilight sleep." It does make the operation very much easier, both for the operator and for the patient. With regard to the anesthetic when you come to the operation proper, cocaine, which is used by Col. Elliot, has the objection that it dilates the pupil, a thing that you do not want. I think we have a better anesthetic in alypin in that it does not dilate the pupil and it produces as good anesthesia as cocaine. I have used alypin in the last few cases and the anesthesia was perfect.

Regarding the use of stitches, it is well-known to every one here who has followed Col. Elliot's work, that in India he did not as a rule use stiches in the conjunctival flap, and yet those of you who have read his latest work, just out in July of this year, have noticed the statement that he makes, that stitches, while not necessary in India, are preferable in operating on Americans and Europeans, who are more restless and nervous. He usually employs two stitches. It has been my experience that they are very much to be desired, and I now put them in as a routine practice.

One of the gentlemen spoke of iridectomy. I presume you are familiar with the argument that Col. Elliot makes on iridectomy, calling it a necessary evil, that if you do not do it the aqueous in the posterior chamber will balloon the iris into the opening, blocking it up. So that he advises an iridectomy, not that an iridectomy is necessary in a sense, but that it is necessary to keep the iris out of the trephine opening. I have personally in all of my cases done iridectomy—peripheral iridectomy—except in one case in which the iris bulged so far forward I made a complete iridectomy.

I have been very much interested in the discussion of acute glaucoma. The first impression I received of Elliot's corneal trephining operation was that it was for chronic glaucoma exclusively. There has been a drift of opinion on this point, and it has been used more and more and by more and more men, both in this country and abroad, in acute glaucoma, and while it is perhaps too early to speak definitely as to its standing in acute glaucoma, the result so far seems favorable. I have myself used it in acute glaucoma after an iridectomy had failed, or, at least, an iridectomy had reduced the tension in acute glaucoma from 65 m.m. to 42 m.m. without relieving the symptoms, and the Elliot operation done some four weeks later, reduced the tension to 18 m.m. and relieved the symptoms.

I believe the Elliot operation is a distinct advance in the treatment of glaucoma, and very much simpler and, for me, very much easier than the Graefe iridectomy.

Dr. Wilmer (closing): In regard to Dr. Calhoun's statements in reference to private and hospital patients, this operation should undoubtedly give better result in private practice. My cases reported were all taken from the records of private patients. In hospital practice, where the patients cannot be expected to take the same aftercare of their eyes, this operation is not as likely to give as favorable results.

One of the patients reported was a personal friend. In this case, I had already performed what seemed, at the time, an ideal LaGrange. The result gave a temporary relief. But in spite of the operation there was a gradual contraction of the field and a diminution of vision.

We notice that in our cases of a successful iridectomy or LaGrange, there is a filtration going on under the conjunctiva, even after the lapse of a number of years. In the unsuccessful cases there is no filtration. It seems to me that after the LaGrange operation there would also be a chance for late infection. There have been a number of cases reported of late infection after sclerocorneal trephining. This is a new operation and,

naturally, stress is laid upon the cases that terminate badly.

In regard to the correction of faulty metabolism, it would be very nice if it could always be accomplished. Some of the cases I reported had the advantage of the advice of some of the best therapeutists in America and in Europe. The case with the high blood pressure had taken two cures at Nauheim, but still the blood pressure remained at about 280°. He was finally advised that he had a normally high blood pressure, therefore he should be happy and stop thinking about it. All of the cases I have reported were operated upon only after other methods had failed to reduce the intra-ocular tension. These patients were intelligent people and some had sufficient means to try any method that might give relief. Some of the patients had continuous high blood pressure, in spite of various forms of treatment. In the other patients, the blood pressure was about normal.

In some of these cases, subconjunctival injections of alkaline solutions were used but without improvement.

The fact that reliable men report cases of late infection proves that this operation is not free from danger. I wish that these reports showed whether the patients were private or hospital cases. I fancy many of the cases belong to the latter class. I advise my patients to use a boric acid irrigation twice a day, and I also prescribe a solution of argyrol and a bi-chloride salve (1 to 5,000) to be used in case of emergency.

SOME RESULTS OF NOSE AND THROAT OPERATIONS IN THE CHRONIC POISONING OF THE HEART, LUNGS, KIDNEYS, JOINTS, ETC.

By Henry B. Decherd, A.M., M.D.,
Dallas, Texas.

As a preliminary to the report of cases illustrative of lesions in the above mentioned organs, I wish to state a few definite assertions which reason has caused me to formulate and which experience has led me explicitly to abide by:

1. To be considered so lightly both by doctors and the people, tonsillectomy is the most delicate, difficult, and dangerous operation in surgery. While some will doubt this assertion and will receive it with no small degree of surprise, those who know will acknowledge it to be both true and conservative.

2. Tonsillar hemorrhage is the very rarest complication if the operation has been properly performed, i. e., by dissection and the cold wire snare. Contrary to the general belief, it is my experience that adults bleed less than children. For example, three recent cases, aged, respectvely, 45, 50 and 64, did not bleed more than two or three drops. These, of course, were injected with weak cocaine-adrenalin solution.

3. The importance of adenoids has been greatly exaggerated, while the tonsils have received insufficient attention. It is in most cases absolutely worse than useless to remove adenoids and leave the tonsils.

4. The most inoffensive-looking tonsil is usually more dangerous than the large, red and inflamed one. Sore throat is rarely ever complained of in these cases of chronic focal infection. Hence, the patient lives in fancied security, and has often been told by the family physician or specialist that his tonsils are "normal."

5. Naturally, some scarring and retraction of the faucial pillars obtain after every extracapsular tonsillectomy; but the patient is cured and no untoward sensations occur in the throat. After appendectomy, patients may complain for years of "ungodly" pains, but the operation is a life-saver. The results of all good surgery justify the highest appreciation from all of us and not the half-hearted and cynical support often experienced.

6. "Rheumatism" embraces all disorders of bones, joints and muscles, from "growing pains" to complete invalidism. When properly questioned, few persons can be found who have not had "rheumatism" in some form. This means a focus of infection. This focus is most often in the faucial tonsil. After middle life and in old age, the ethmoids are often secondarily involved.

7. Other and more rare foci are found in the alveolus of the jaws, prostate, gall-bladder, etc. In these cases too much attention has been paid in the past to the so-called diathetic and intestinal causes. In every case of "rheumatism" the tonsils are factors to be reckoned

with. There may also be some other focus of infection, or even two or three other foci, but the patient will not be cured without a properly performed tonsillectomy. This is not my opinion only, nor the opinion of the specialists; it is the dictum of scientific investigators in general medicine. Some of these men go so far as to state that *all* "rheumatism" is primarily due to tonsillar infection—to which I do not subscribe.

8. It is far better and much easier to prevent these cases of chronic focal infection by removal of tonsils in early life than to attempt cures in adults by operation on tonsils, septum and ethmoids. By early operation we also prevent "growing pains," chorea, mouth infection, endocarditis, scarlatinal and other forms of acute rheumatism, and many other of the acute infectious diseases of childhood.

9. Recent work in Boston seems to prove that only by eradicating the tonsil can diphtheritic disease-carriers be eliminated. Attention should also be called in passing to the important work of Smith, Barrett, and Middleton on the tonsil as a breeding place for the endameba of pyorrhea alveolaris. The mutation of bacteria is likewise worthy of consideration.

10. Finally, the ultimate result of chronic focal infection can be interpreted in terms of old age, arteriosclerosis, stiffness of muscles and joints, chronic inflammation of bronchi, serous cavities of head, endocardium, kidneys, etc. While the process is active and progressive, and even after it can be called "chronic," the general well-being and efficiency of the individual are affected, as manifested in aprosexia, "irritability," neurasthenia, psychasthenia, or other neuroses. In other words, here we have to deal with a great factor which often decides that elastic and relative condition ordinarily styled "character."

11. The use of vaccines and bacteriolytic serums has so far been rather unsatisfactory. This might be accounted for in many ways. In the first place, the bacteria in the joint structures, endocardium, etc., may on account of mutation be quite different organisms from those in the original focus (tonsil, alveolus, prostate, gall-bladder). Hence a vaccine, or serum (autogenous) from the original germs might not contain the proper antigen. Or again, on account of septic emboli in the end arteries of a certain structure, the antibodies of an injected serum or vaccine may not sufficiently penetrate to the diseased structure.

12. The rash in scarlet fever, measles, urticaria, and vasomotor phenomena, such as asthma, hay fever, and the like, can all be very satisfactorily explained as anaphylactic reactions.

Case No. 1.—Chronic Arthritis and Myositis. Mr. W. E. S., male, white, banker, aged 44 years. Operated September, 1914. Fourteen or fifteen years ago patient had an attack of lumbago. This attack got almost well in ten or twelve days, but was followed in three months by a severe attack of sciatica and an extremely sore and stiff neck. Patient almost completely crippled for four months. Since that time has been a victim of muscular rheumatism nearly the whole time. Muscles of back especially involved, spinal column is also fixed from bony anchylosis. Heart, lungs, and blood-pressure about normal. Dermoid at lower end of spine; this was bruised at sixteen, and since then has discharged at rare intervals. Tonsils removed, although no history of sore throat. In 24 hours patient stated that he felt quite a deal better, and that he could stand straighter than in years. A steady improvement has persisted since the operation, hence the psychic element can be eliminated; this is especially true because the patient could not at first see any connection between his throat and his "rheumatism."

Case No. 2.—Asthma. Mrs. B. W. L., female, white, aged 50 years. Has had asthma for more than 20 years, and has been treated all this time by sprays, diet, internal remedies, et cetera, without effect. At times is compelled to sit up all night with head in open window in order to breathe. Sense of smell deficient. Examination revealed double chronic suppurative ethmoiditis and pus in both antra and also in sphenoid. I gave her a fair promise of cure, but was not insistent. I told her that even if the asthma were not cured, it would be benefited, and that the chronic poisoning of her system would be eradicated. Her family physician emphatically advised against any

operative measures; but she told him that she preferred to die if she could not obtain relief. Results were more or less immediate, but on account of the widespread infection, it required in all eight operations on the ethmoids, antra and sphenoid. Final result: complete cure of asthma with return of sense of smell.

This good woman never misses a chance to tell me and her many friends that she was not cured but that her life was saved. Of course, I have not advised her to refrain from this statement, because I really feel that she is telling the truth. Eight years have passed since this operative work with not a single attack of asthma.

Case No. 3.—Asthma with Anosmia. Mrs. J. S., female, white, aged 43, anosmia 8 years, asthma 33 years. Consulted me for eye trouble (wanted glasses changed). Vision O. D. 20/30; O. S. 20/30 minus. Glasses do not improve. Optic nerves show a distinct brownish pallor—more in left than in right eye. Diagnosis: Double hyperplastic ethmoiditis. Ethmoids exenterated on September 20 and October 8, 1914. Has had no asthma since the operations. Patient states that her vision is much better. One week after the latter operation the patient surprised her husband on coming down to breakfast by saying: "My, but that coffee smells good." The husband was loath to believe her, since she had smelled nothing in 8 years.

Case No. 4.—Asthma and Hay Fever. Mrs. M. P., female, white, aged 59. Has had "hay fever symptoms" as long as she can remember. Asthma 5 years; worse for last two years. Violent headaches all of her life, even as a child—frontal, vertical, and occipital. Headaches seemed to stop five years ago, and the asthma came on. No loss of smell. Watery discharge from anterior nares and dried crusts from posterior nares. Eye symptoms not prominent. Nasal examination reveals deviated septum and chronic hyperplastic ethmoiditis. Radiograph shows chronic frontal sinusitis. These cases should all be examined by the internist and radiographer. Ethmoid exenteration on October 22 and November 3, 1914. Slight amount of pus and a few polyps found at operation. The patient had case No. [illegible] exenterated during the attack. [illegible] had several attacks of asthma while under treatment, but she felt sure that they were lighter than usual. Case No. [illegible] had no attacks at all during operation and treatment. The family doctor also advised this patient [illegible] to consult a specialist.

Case No. 5.—Chronic Arthritis and Myositis—Bedridden. Mrs. M. S., female, white, aged 38. This case was confined to bed, with temperature ranging from 96 to 101 degrees F., and pulse from 80 to 120 or even higher with the least exertion. Patient is very nervous and excitable. Being a Russian, the history of this case was somewhat hard to obtain. Neuralgia and frontal and occipital headaches had been present several months. Patient states that she has had "bad catarrh" of the head for the same length of time. Both Dr. Leake and Dr. Smart had seen this case, and both had correctly located the cause of trouble in the nose and vicinity. Chronically diseased tonsils and enlarged anterior and posterior cervical glands especially marked. Shadow in left antrum, and pus and dried scabs in both middle meati. Five healthy children; three miscarriages close together about twelve years ago. The nasal appearance did not justify a diagnosis of lues, although four of my colleagues to whom I showed the case leaned toward that opinion. Wassermann negative. Anti-specific treatment for six weeks, with nasal antisepsis. Slight improvement. Forced feeding. Operation on left ethmoid on October 1 and right on October 24, 1914. Good results were many and almost immediate. At first patient could hardly drag herself to the office, and seemed to care little whether she lived or died. The aches and pains have disappeared; she has put on ten or twelve pounds weight; has a healthy, rosy color, good appetite, smiles and jokes (in Russian); and altogether is a very different person from the bed-ridden, nervous, melancholic individual of a few months ago. I neglected to say that the tonsils were also extirpated in order to remove every infective focus.

Case No. 6.—Chronic Arthritis and Myositis—Bedridden. Mrs. M. D. D., female, white, aged 30. For more than fifteen years at intervals has been confined to bed with severe attacks of acute rheumatic fever. Between attacks has been a chronic sufferer. In March of this year she had another acute exacerbation. Fever, acid sweats, prostration, et cetera. Could not move in bed; could not raise her head from the pillow; could not even raise her arm. Every known treatment was instituted to no avail. A three weeks' treatment at Marlin hot wells seemed to help a little. She was carried there on a cot. She came home and could walk a little on crutches. At home she met a patient of mine, a young man who suggested that she have her tonsils removed, as he had recalled that I had told him that these organs were often "the bottom of rheumatism." She came to

Dallas and went under Dr. Reeves' care at the hospital (St. Paul). Dr. Reeves told me to look at the tonsils and remove them if I thought the operation necessary. Accordingly, I removed one tonsil under local anesthesia, in the recumbent position. Next day the temperature had fallen one degree and a half. On the fourth day the second tonsil was enucleated. The temperature fell another degree and a half to normal, and never went up again. The patient states that she began to feel better from the first operation and kept improving. In a letter written a few days ago the patient very vividly describes her intense suffering and intoxication. She states that she is now a well woman, and doing all of her housework. "No one who has not had this disease can realize how much I suffered; and no one better than I know that the tonsil operation completely cured me."

Cases Nos. 7 and 8.—Nephritis. These two cases have been reported in full in a paper read at Houston at the 1914 meeting of the Texas State Medical Association. Both cases showed general symptoms of chronic parenchymatous nephritis and albumen and casts in the urine. Both cases cleared up completely after an extracapsular tonsillectomy.

Case No. 9.—Bronchiectasis. Mrs. B., female, white, aged 50. Has had nose and throat trouble all of her life. Also cough and "rheumatism." Has for many years coughed up a great deal of pus. Says that her sputum has been examined hundreds of times for tubercular bacilli but none have ever been found. Her father is a doctor and has sent her to Colorado at different times for climatic help. I, too, had the pathologist examine her sputum. Negative result. Her ethmoids and sphenoid were so soft and full of pus that I could have scraped them out with my finger nail. Thorough drainage of these sinuses have had a good effect; but on account of the numerous cavities (bronchiectatic) in the lungs, the case has been allowed to progress until it is hopeless. This is a sad case, but we see lots of them or ones very similar. The radiograph here appended shows beautifully the cavities in the lungs. The infection here came of course originally from the nose and throat (the tonsils are still markedly diseased, but I have not removed them because it would not help much now) in childhood, starting with the chronic cough from tonsils and adenoids. Such cases are much more likely to result if the operation for these growths has been poorly done. If not completely done, they should not be removed at all. I have seen this poor woman sit over a spitoon and cough up a teacupful of pus in thirty minutes.

Case No. 10.—Endocarditis (Chorea—Chronic Valvular Heart Disease). Mr. P. McD., male, aged 17, school boy. This is a splendid example of a class of cases all too common. We see them almost every day. This boy's father and mother, both aged 50, are both handicapped by marked throat affections and varied "rheumatic" manifestations. The ten children of this family are all practically invalided from the same cause. Case 10 is a tall, slender, anemic boy with mitral disease, poor and capricious appetite and aprosexia. Feels tired on getting up in the morning. Has had "rheumatic" attacks several times. Always a frail child. Chills (?) for two months at the age of fourteen months. At 12 or 13 was sick for more than a year with chorea, judging from the symptoms described by the mother. "Growing pains" during childhood. Heart beats furiously on the least exertion. Today the beat is 150 or even more. Tonsillectomy under local anesthesia in the recumbent position. Operation in the sitting posture would have been positively dangerous. Result of operation: In a few weeks the mother 'phoned that she could see marked improvement in appetite, color, and general well-being. The heart has toned down perceptibly. Slower and more regular. Today the beat is about 100 or even less when quiet. Patient says he feels better and awakes less tired. He even wants to play football, but of course this is out of the question. He will never be a normal man; the harm has gone too far and has existed too long to be completely eradicated.

And so we could go on citing case after case like the ones mentioned above, but I shall not further tax your time. If I have more clearly focussed your thought on the tonsil in rheumatism and the ethmoid in asthma, the aim of this paper shall have been attained. In conclusion, I wish to make a definite plea for more cooperation in medicine. By this I mean more co-operation between physicians. The family doctor who usually sees these cases first should rather be too ready than too lax to refer them. Such action will redound to his own credit and influence as well as to the betterment of the patient. Two of the above cases were succinctly advised not to consult another man. Had they followed this advice both would be now suffering a life long ills

ery. And yet the doctor should first of all be his patient's friend. Let each and every one of us firmly resolve to give each of his patients the benefit of more thorough, adequate and scientific examination and treatment. Let us try to remove from them the handicap of a chronic infection, even though "latent" and hard to diagnose. To do so we must talk with each other. This is what Cabot would call "vital reciprocity." Its adoption could result only in increasing the efficiency of these chronic sufferers and in adding to the sum total of human health and happiness. It is said that on one occasion Charles Lamb refused to be introduced to a certain person. His friend asked him why he refused. Lamb replied: "Because I don't like him." "But you have never met him." "That's why I don't like him." The appropriateness of this tete-a-tete is obvious. Let's get together. Let us not be too quick to form our medical opinions; but, on the other hand, let us not refuse to adopt a good thing merely because it is not a hundred years old. It might be an error to be the first by whom the new is tried, but we certainly err to a far greater extent by being the last to lay the old aside.

AUTHORS' ABSTRACTS.

Eye, Ear, Nose and Throat.

Ophthalmia Neonatorum—Prevention and Cure. By G. A. Neuffer, Abbeville, S. C. Journal of the South Carolina Medical Association, February, 1915, pp. 43-44.

Thirty per cent of the total blindness in the United States is caused by ophthalmia neonatorum. The disease is easily prevented and is always due to lack of proper care of the child at birth.

Prevention: In addition to the ordinary cleanliness which should be observed in every case of labor, the attending physician should drop in each eye one drop of a 1-grain to the ounce solution of nitrate of silver.

[There should be a state law requiring every physician to carry this solution in his obstetric bag and to use it on every child delivered by him.]

The baby's eyes should be cleansed each morning with a warm solution of boric acid.

Cure: In every case of ophthalmia neonatorum proceed as follows: Apply a 4-grain to the ounce solution of nitrate of silver to the conjunctiva of the eye or eyes as the case may be; immediately neutralize with a solution of soda chloride. This application is repeated once every twenty-four hours until the disease is controlled. Keep eyes cleansed with warm boric acid water, instructing the nurse or the mother to wash the eyes out with it just as often as any pus collects, no matter if she has to do it a hundred times a day.

One drop of a 1 per cent solution of argyrol is dropped into the eye three times a day as long as there is any pus. After that an astringent lotion is substituted for the argyrol. Squares of lint kept on a block of ice and applied over the eye constantly for forty minutes, rest with them twenty minutes, apply again forty minutes and so on. This last treatment is useful when there is much swelling.

Adenoid Tissue, Its Relation to the Middle Ear; Consequences. By B. H. Minchew, Waycross, Ga. Journal of the Medical Association of Georgia, March, 1915, pp. 316-318.

The damaging influences of adeniod tissue, aside from its relation to the middle ear, should be recognized and removal advised. No child can reach its full growth mentally or physically with a hindrance of this character. The effect upon the bony development of a child is such as to warrant grave concern. Mental dullness is always associated with this growth.

The pinkish tinge of the drum membrane with an occasional ache is the forerunner of severe earache and paracentesis or rupture. Otitis media will persist until adenoids are removed. If removal be delayed too long necrosis of the bony processes occur and removal will not cure the case at this time. Mastoiditis follows otititis media in the neglected cases. All the tragic terminations of these cases can be traced to neglect or the mass of adenoid tissue closing the mouth of the eustachian tube and producing the primary foci in the middle ear. Meningitis, sinus thrombosis and death is the final chapter in many of the cases where a removal of the adenoid tissue a few months before would have meant life and health.

Intranasal Operation, with Guide for Cure of Dacryocystitis. By F. M. Hanger, Staunton, Va. Laryngoscope, January, 1915.

After cocainizing and adrenalinizing the sac and nasal duct, Theobold's No. 13 probe is passed into the nose and left in situ. The inferior turbinated bone and the site over the nasal duct are now cocainized and adrenalinized. The front third of the inferior turbinal is removed, thus exposing the lower end of the probe or guide, in the lower meatus. The operation can now be completed in two ways. First, the probe or guide is slowly withdrawn upward while the male blade of a right angle punch forceps follows in its wake and bites away at several bites the inner wall of the nasal duct up beyond the stricture, thus converting it into an open gutter and the operation is finished. Second, the guide can be left in position and the inner wall

of the nasal duct cut away, exposing the guide, with a curved chisel, gouge, or the author's bayonet-shaped curette, thus making the same open gutter. The guide protects two-thirds of the lumen of the duct and prevents injury to same or wounding the antrum or ethmoidal cells.

The gutter can be extended up into the sac if necessary, but should stop just beyond the stricture, as determined by the ease of re-introduction of the probe.

The operation is similar to a urethrotomy with a guide and can be done painlessly, bloodlessly, and by any operator possessing ordinary skill. The gutter cannot and will not close.

Present Knowledge of Focal Localization Along Visual Paths. By C. Barck, St. Louis, Mo. Annals of Ophthalmology, January, 1915.

The author gives a complete historic outline of the development of this field, anatomically, physiologically and pathologically. Then he presents his conclusions, dividing our present knowledge into positive and relative. As positive knowledge the following is stated: In the optic disc and immediately behind it, the macular bundle of the optic nerve occupies a temporal sector, comprising about one-fourth of all the nerve fibers. Then it turns toward the center of the optic nerve and reaches this position about midway between the eyeball and the optic foramen. It retains this central position in the posterior portion of the nerve as well as in the chiasm and in the optic tracts, although its configuration changes. The primary visual center is situated in the lateral and mesial geniculate bodies, in the thalamus opticus and in the hypothalmic nucleus, but mainly in the first one of these ganglia. A differentiation between them as to function or localization is at the time impossible. The fibers for the pupillary reflex also undergo a semi-decussation in the chiasm, so that each eye sends pupillary fibers to both reflex centers. The pupillary fibers accompany the visual fibers into the lateral geniculate bodies. There they depart from them and proceed into the superior corpus quadrigeminum. This is the pupillary reflex center and it is connected with the retina of both eyes. The communication between the primary and the ultimate center is by way of the optic radiation, a well defined set of fibers. The ultimate center is located in the occipital lobe. It occupies the mesial portion of this lobe around the calcarine fissure; and its three gyri, the cuneus, the lobus lingualis, and the gyrus descendens, participate in it to about an equal extent. This area coincides with the portion in which Gennari's stripe is constantly found. All further knowledge is, at the time, relative.

AUTHORS, ABSTRACTS.

Surgery, Gynecology and Genito-Urinary Diseases.

(Continued from page 411.)

Exposure of Appendix by Cullen's Method. A Simple Way of Removing an Adherent Retrocecal Appendix Through the Ordinary Gridiron Incision. By William Neill, Jr., Baltimore, Md. Journal of the American Medical Association, January 23, 1915, pp. 299, 300.

In the above type of cases, after a gridiron incision has been made, it is often impossible to expose the appendix, without being forced to cut across some of the abdominal muscles.

The longitudinal band of the caecum is followed down and the base of the appendix located. A blunt Kelly forceps is then pushed through the meso-appendix at this point and grasps a piece of tape, which is pulled through and the two ends grasped in the tip of the forceps.

Strong traction can be exerted on this, without injury to either the caecum or appendix. Traction invariably brings up from three-fourths to one inch of the appendix. Another forceps is passed through the meso-appendix at a point lower down and a second piece of tape grasped in the same manner as with the first, and a further portion of the appendix exposed.

As many of these tapes as is found necessary can be employed; usually two or three will suffice. Usually by traction on the third tape the tip of the appendix will be exposed.

The meso-appendix is now clamped from tip to base and ligated, and the tapes removed. The appendix is now free and can be treated in the usual way. Thus, a difficult and tedious operation is often rendered a simple one by the aid of the "hand over hand" procedure with the tapes.

Keloid Formation in Negro. By A. G. Brenizer, Charlotte, N. C. Annals of Surgery, January, 1915.

The keloid, since it is histologically a fibroma, and histogenetic studies have established the fact that it does not grow through changing the surrounding cells into tumor cells but grows as a mass of cells from an original focus, and does not (as for example, the tubercle and gumma) involve the surroundings directly in the process, differs from all known effects of bacteria. It could only be an absolutely specific adaptation of the parasite to the tumor, which is so perfect that it immediately becomes absorbed by the cells from which the growth springs. For how could one imagine a parasite which might affect certain cells, prompt them to continuous growth and immediately lose the power to affect other cells!

There is a striking relation between outward injury and the formation of tumors. Even normal cells are prompted to proliferation and alteration by outward injury, but there is a return to normal or to a state of equilibrium of growth. Whatever checking force there is to control the growth and shaping of the body tissues again exerts its influence. It would seem that, in the case of normal cells, there is first a paralysis and then a regeneration of an inhibitory substance, while, in the case of tumor cells, the paralysis is followed only by a more or less feeble restoration of inhibition; it remains a vague speculation as to what this inhibitory influence is.

A keloid may arise following an irritation of the slightest intensity.

The Southern Medical Journal

JOURNAL OF THE
SOUTHERN MEDICAL ASSOCIATION

Incorporating Gulf States Journal of Medicine and Surgery and Mobile Medical and Surgical Journal.

Published monthly at Nashville and Mobile. Price, $3.00 per year; 25 cents per single number.
Address Southern Medical Journal, Suite 905 Van Antwerp Bldg., Mobile, Ala., U. S. A.
Entered as Second Class Matter July 8, 1908, at the Postoffice, Nashville, Tenn.

EDITOR-IN-CHIEF.
SEALE HARRIS, M.D. ..... *Mobile, Ala.*

MANAGING EDITOR.
H. A. MOODY, M.D. ..... *Mobile, Ala.*

ASSOCIATE EDITORS.
J. A. WITHERSPOON, M.D. ..... *Nashville, Tenn.*
W. D. HAGGARD, M.D. ..... *Nashville, Tenn.*
W. A. BRYAN, M.D. ..... *Nashville, Tenn.*
W. M. LITTERER, M.D. ..... *Nashville, Tenn.*
M. M. CULLOM, M.D. ..... *Nashville, Tenn.*
OSCAR DOWLING, M.D. ..... *Shreveport, La.*

BUSINESS DEPARTMENT.
MR. C. P. LORANZ, *Business Manager* ..... *Mobile, Ala.*

OFFICERS OF THE SOUTHERN MEDICAL ASSOCIATION.

PRESIDENT.
DR. OSCAR DOWLING ..... *Shreveport, La.*

FIRST VICE-PRESIDENT.
DR. R. C. DORR ..... *Batesville, Ark.*

SECOND VICE-PRESIDENT.
DR. MCGUIRE NEWTON ..... *Richmond, Va.*

SECRETARY-TREASURER.
DR. SEALE HARRIS ..... *Mobile, Ala.*

COUNCILORS.
DR. H. H. MARTIN, *Chairman* ..... *Savannah, Ga.*
DR. W. S. LEATHERS ..... *University, Miss.*
DR. LOUIS ABRAMSON ..... *Shreveport, La.*
DR. W. S. THAYER ..... *Baltimore, Md.*
DR. JOSEPH GRAHAM ..... *Durham, N. C.*
DR. R. H. MCGINNIS ..... *Jacksonville, Fla.*
DR. ROBERT WILSON, JR. ..... *Charleston, S. C.*
DR. J. SHELTON HORSLEY ..... *Richmond, Va.*
DR. L. S. MCMURTRY ..... *Louisville, Ky.*
DR. EDWARD H. CARY ..... *Dallas, Tex.*
DR. I. N. BAKER ..... *Montgomery, Ala.*
DR. J. A. CRISLIP ..... *Memphis, Tenn.*
DR. C. P. METCALF ..... *Little Rock, Ark.*
DR. A. R. SHANDS ..... *Washington, D. C.*
DR. G. C. ROBERTS ..... *Elkins, W. Va.*
DR. MILLINGTON SMITH ..... *Oklahoma, Okla.*

SECTION ON MEDICINE.
DR. WILLIAM H. DEADERICK, *Chairman, Hot Springs, Ark.*
DR. CHARLES L. MINOR, *Vice-Chairman* ..... *Asheville, N. C.*
DR. [illegible] ..... *Atlanta, Ga.*

SECTION ON SURGERY.
DR. [illegible], *Chairman* ..... *New Orleans, La.*
DR. JOHN H. BLACKBURN, *Vice-Ch'n* ..... *Bowling Green, Ky.*
DR. F. WEBB GRIFFITH, *Secretary* ..... *Asheville, N. C.*

SECTION ON PUBLIC HEALTH.
DR. A. W. [illegible], *Chairman* ..... *Richmond, Va.*
DR. JAS. A. HAYNE, *Vice-Chairman* ..... *Columbia, S. C.*
DR. W. S. LEATHERS, *Secretary* ..... *University, Miss.*

SECTION ON OPHTHALMOLOGY, RHINOLOGY, OTOLOGY AND LARYNGOLOGY.
DR. JOSEPH B. GREENE, *Chairman* ..... *Asheville, N. C.*
DR. E. H. CARY, *Vice-Chairman* ..... *Dallas, Texas.*
DR. THOMAS W. MOORE, *Sec'y* ..... *Huntington, West Va.*

SOUTHERN STATES ASSOCIATION OF RAILWAY SURGEONS.
DR. [illegible], *Chairman* ..... *Atlanta, Ga.*
DR. [illegible], *Secretary* ..... *Norfolk, Va.*
DR. CLARENCE H. VAUGHT, *Secretary* ..... *Richmond, Ky.*

Next Meeting, Dallas, Texas, Nov. 8, 9, 10, 11, 1915

EDITORIAL DEPARTMENT

"TWILIGHT SLEEP."

It is the custom of the SOUTHERN MEDICAL JOURNAL to abstain from positive comment upon any new substance or procedure until it has stood the test of time. Not until then do we feel justified in accepting an opinion that we can present to our readers.

Thus when the Friedman fraud seemed about to swamp the judgment of the unthinking majority, the JOURNAL warned its readers to withhold judgment until developments decide the merits or demerits of the question. The editors felt that if the thing was as good as it claimed to be the profession could well afford to wait for its confirmation, while if it were to prove unworthy of confidence its promulgation would be a great misfortune to the thousands who would suffer from it. The event showed the wisdom of our position.

In like manner when the so-called "twilight sleep" was proclaimed to the public, not only by many standard medical journals, but also, in a most sensational manner, by some of the leading literary magazines, the JOURNAL was content to assume a position of "watchful waiting," only calling attention to the great potency and habit-forming character of the drugs used and the inevitable danger of popularizing them with those who were not sufficiently trained in their use. Again our judgment has been justified. Nearly a year ago McClure's published an article on the "Painless Childbirth." In rosy hues it depicted the banishment of pain and fear from childbed and gave instance after instance of the successful use of the supposed-to-be new method of managing labor.

For months the press teemed with sensational articles proclaiming the new blessing to women, and all over the country, both in rural and urban communities, venturesome doctors endeavored to imitate the work of the Freiburg institution with entirely inadequate means, knowledge [illegible] medicine. Meanwhile

most medical journals deprecated the hasty acceptance of such a critical procedure and soon reports of failures and accidents began to be heard. It would seem that now at last sufficient experience has been had both in Europe and America for the formulation of an acceptable judgment of the usefulness of the procedure and a technique that should be observed in its administration.

In McClure's for April, 1915, appears an article in the nature of a supplement to the one it printed in June, 1914. In this article the whole matter is reviewed in a manner which, though highly laudatory, yet gives a tolerably fair expression of opposing views. The conclusion reached by the authors seems to be that when the "twilight sleep" is administered to suitable cases properly selected, by physicians who are not only competent but also experienced in its details, in an institution devoted to such work, and where provision is made for trained attendants to be present with the patient every moment as long as necessary, then it may be safe to use morphine and scopolamine with the parturient woman. No encouragement is offered to the general practitioner to try to use it in the homes of his patients. Even McClure's calls attention to the large number of "blue babies" from "twilight sleep" but says that they do not die.

Most of the recognized authorities have expressed in no uncertain terms their disapproval of "twilight sleep." They have either tried and have abandoned the procedure or they have refused to use remedies which they know will increase uterine inertia, thus prolonging labor and increasing the danger of post partum hemorrhage, and at the same time narcotize the infant, thereby lessening its chances to live.

Neither the general practitioner nor the obstetrician has the right to experiment upon his private patients and until "daemmerschlof" has been sufficiently tried in the hospitals to receive the sanction of the authorities its use should be discouraged.

VENEREAL DISEASE IN THE NAVY.

Hon. Josephus Daniels, Secretary of the Navy, has issued a circular letter to all commanding officers in the Navy Department, upon the subject of venereal disease in the Navy. It is a forcible and logical presentation of the facts in the case. It shows that during the last statistical year there have been four deaths, 138 discharges for disability, and 141,378 sick days from venereal troubles.

One ship in the Far East reports that 44 per cent of the crew have become infected during the cruise. The secretary says this condition is not unusual in other services or in civil communities, and cites a statement made by a committee of the New York County Medical Society that "200,000 people infected with venereal diseases are walking the streets of New York." By far the most forceful part of the letter is that which condemns the use of the so-called "preventive or prophylactic packet." He believes its use to be immoral, as it seems to encourage and approve placing in the hands of the men an appliance which will seem to encourage them to think that they may indulge in immoral practices with impunity. He calls attention to the youth and immaturity of the boys subjected to temptation. He says: "The spectacle of an officer or hospital steward calling up boys in their teens as they are going on leave and handing over these "preventive packets" is abhorrent to me. It is equivalent to the Government advising these boys that it is right and proper for them to indulge in an evil which perverts their morals. I would not permit a youth in whom I was interested to enlist in a service that would thus give virtual approval to disobeying the teachings of his parents and the dictates of the highest moral code." Finally, he directs that commanding officers consult with their medical officers, and that a regular and systematic course of instruction be given along the lines indicated, including the moral education of the men and thorough instruction as to the nature of these diseases,

and the dangers that will certainly overtake them if they fail to be guided by the teachings and admonitions given. The promulgation of this letter cannot fail to win the approval of every good citizen. The service of the United States Government, whether on land or sea, should be a school wherein the boys of the nation may be instructed in the elements of honor and morality as much as in loyalty to the flag. The country is to be congratulated that this important matter is in the hands of Secretary Daniels and his able associates, prominent among whom is Surgeon-General Braisted, who without doubt had much to do with the framing of this important document. The handling of this matter is fraught with many difficulties, but it is in good hands.

THE TRYPANOSOMES AND THEIR NOMENCLATURE.

In Transactions of the Society of Tropical Medicine and Hygiene, November, 1914, Surgeon-General Sir David Bruce, C.B., A.M.S., presents an attempt at "Classification of the African Trypanosomes Pathogenic to Man and to Domestic Animals," in which occur sentences pregnant with suggestions of a most intensely interesting nature. Though now apparently safe from having any of our citizens infected by tropical trypanosomes, yet in these days of swift travel from one part of the world to another it is not impossible that at some time soon cases of such infection may be brought to our Southern seaboard for diagnosis and treatment. Dr. Bruce repudiates any classification based on "old laboratory strains," some of which, it would seem, were introduced into European laboratories nearly twenty years ago. As well "attempt to give the natural history of the blue rock pigeon from a study of our tame varieties."

A study of trypanosoma brucei and trypanosoma gambiensie shows that though closely related T. brucei has, during its laboratory existence, "changed its morphology and become monomorphic, and lost its power of undergoing development or even surviving in the tsetse fly." Sir David has, in this classification of the trypanosomes, depended upon "the morphology, action on animals, and mode of development in the tsetse fly." He has studied them as living and unstained, and as fixed and stained. They are then drawn at one standard of magnification of 1 : 2,000 by means of a camera lucida and then measured. One thousand specimens from each susceptible animal were thus measured and plotted into a curve. Two hundred trypanosomes were all that could be examined in one day. He endeavored to measure a thousand trypanosomes taken from the same white rat, one hundred on each of ten consecutive days. The same painstaking exactitude was observed throughout the investigation. One curious and important feature was noted, namely, that T. brucei, after passing through white rats for many generations, becomes more virulent to them and is fatal to them in two days, while the natural, wild strain only kills them in twenty or thirty days. It is natural to infer that in a community of human beings infected with T. brucei the trypanosomes may become more virulent with each successive infection, so that immunity is impossible. Perhaps this circumstance accounts for the great fatality of the disease among the natives, where its prevalence and fatality is sometimes appalling.

In the discussion as published in the "Transactions" several of the positions assumed by Sir David were energetically attacked. Professor J. W. W. Stephens warned readers of the paper against "accepting as truth statements made in a dogmatic form." Again he suggests that Sir David is suffering "from a lack of recognition of the work of other observers," whereupon he gives a summary of work which he himself had "contributed to the Report of the Departmental Committee on Sleeping Sickness, 1914." Dr. H. B. Fantham also participated in the debate. Miss Robertson commended the "general soundness of the division into groups." Professor Yorke

spoke at length upon the nomenclature of the various species of trypanosomes and priority therein. He objects to the adjective "brucei" being used to indicate a certain group, as its oldest member is T. evansi.

He can see no reason for the name T. pecorum, because it is based merely on the absence of free flagella. Dr. A. Balfour, a member of the Departmental Committee. on Sleeping Sickness, hailed the classification of Sir David as a relief from a chaotic condition. He considered the existing literature very confusing.

The discussion was full and animated. At present the subject is chiefly to us of only academic interest, but it may become something nearer to our profession in the South.

RADIO EMANATIONS IN AMERICAN SPAS.

The present generation of American doctors has, as a rule, looked with skepticism upon the claims of our mineral waters as to the possession of curative properties. Their argument has been that the indisputable benefits received by thousands of visitors year after year should be ascribed to change of environment, including diet and mental exertion. Doubtless such factors are potent for good, but many have found them immensely more effective at certain so-called mineral springs than elsewhere, and such persons pay but little attention to the chemical analysis that shows no elements in their favorite waters save those found in ordinary springs. Investigations at the famous spas in Europe have demonstrated the presence of radium emanations in most of them, of sufficient strength to partly account for the persistent faith of successive centuries in their usefulness. It was found that the emanations were stronger and most actively efficient when the water was used immediately upon its issue from the source. The greatest benefit results from swimming pools freshly drawn, where the patient is immersed, so that he breathes the air close to the surface of the water. The results of these investigations were so suggestive that similar work has been undertaken in this country.

Some recent investigations have disclosed that fact that the radio-activity of some of the springs in the South is even higher than those at Nauheim, and the radio-activity of the swimming pools exceeds that of Joachimsthal and Baden-Baden, which are the strongest in radium emanations of all the spas. Though the study of the medicinal springs of America has but just begun, yet it promises great futures for those so far examined, and it is more than probable that further developments will reveal the presence of radium exhalations in many other springs which have acquired a reputation for healing properties. The persistent faith of successive generations in the power of certain apparently ordinary spring waters to relieve cases of weak digestion, rheumatism, bladder and kidney troubles and skin diseases may be found to have a more scientific foundation than the imagination.

Physicians should bear in mind that throughout the South may be found mineral springs the therapeutic value of which is equal or even of greater potency than those of Europe.

NEW AND NON-OFFICIAL REMEDIES.

The book "New and Non-Official Remedies" for 1915, prepared by the Council on Pharmacy and Chemistry of the American Medical Association, should be read and "studied o'er and o'er" by every progressive practitioner of medicine. It contains practical information regarding new and worthy drugs that should be in the hands of every physician who wishes to keep up with the rapidly advancing knowledge of the tools of his business, the materia medica worthy of his attention. It will not do to say "the old drugs are good enough without additions," for that is not true. Most of them are good, having stood the test of time, but many of the new ones, such as aspirin, hexamethylenamine, salol and so on, are

better, each in its own line, than any that preceded them, and every little while some new aspirant for our confidence appears.

The Council on Chemistry and Pharmacy is doing a great and noble work for our profession in examining and testing in every possible way these new remedies and the claims made for them. The SOUTHERN MEDICAL JOURNAL is not prepared to do this work, lacking the time, laboratory and chemical staff necessary, but it accepts as accurate and final the conclusions published by the Council, and is grateful, for itself and the medical profession, for the opportunity thus afforded to keep posted on new remedies worthy of attention and for timely warning against unfounded claims for pseudo-scientific products of enterprising manufacturers.

It is just as necessary for a conscientious doctor to be posted concerning the latter as it is for him to be able to give his patients the advantage of every improvement in therapeutics that modern chemistry or pharmacy provides. This report should be made a textbook in every medical school that is not so virulently infected with therapeutic nihilism as to despise materia medica and turn their students over to the detail drug man and the proprietary medicine literature for their instruction in that department of medical knowledge. Already in some schools of medicine the regular course of instruction in materia medica and therapeutics includes a fair consideration of the New and Non-Official Remedies and certain lectures exposing the fraud in the claims of many proprietary remedies too often prescribed by physicians in regular practice.

It happened that an unobtrusive survey of the prescriptions written in one day by a fashionable practitioner revealed six calling for medicines listed in the U. S. Pharmacopoea and sixteen specifying various proprietaries, seven of which were in original packages. This is a condition that should not exist. It is true that the employment of certain proprietary medicines is entirely justifiable, but there should be no reason for such a preponderance over the official drugs. But this therapeutic ignorance will continue to prevail so long as so many otherwise excellent schools continue to neglect the department of materia medica and therapeutics. This chair is one of the most difficult to fill satisfactorily. Merely to recite a list of drugs is useless. One might as well try to teach literature by reciting pages of the dictionary.

The studies of materia medica and therapeutics, including pharmacognoscy, should be united. They can only be well taught by a doctor who has had an extensive experience, who loves his profession and who has a ready gift of accurate expression. He should have access to current medical literature and abundant time to utilize it, for every branch of medicine contributes to the knowledge needed in teaching therapeutics. In this connection the recorded results of the use of new remedies by eminent men will form an important part of his work, and the yearly reports of New and Non-Official Remedies would be among his most useful authorities. Finally, to do all this work thoroughly and well will require his whole time.

Until this department is conducted along these lines the newer generations of doctors will remain at the mercy of the proprietary medicine houses and their seductive literature. Such teaching should be demanded of every medical school by the general practitioner of the country. Meanwhile the yearly reports of the Council afford the surest antidote, pointing out the worthy from the unworthy and affording a safe guide to the bewildered searcher for pure therapeutics.

American Medical Association, 535 North Dearborn St., Chicago, Ills. Paper bound, 50 cents, cloth, $1.00.

THE SAMUEL PRESTON MOORE MONUMENT.

If ever a man performed such services for his country, his people and humanity as to entitle him to an enduring monument raised to

perpetuate his memory, that man was Dr. Samuel Preston Moore, Surgeon-General, C. S. A.

Before the outbreak of our civil war he had rendered such distinguished services as a surgeon in the army of the United States that had he remained in that government there is scarcely a doubt that he would have been appointed Surgeon-General of the United States Army. But he was a South Carolinian, and when his State seceded he went with his own people, though, like the immortal Lee, it caused him great distress of mind to do so. President Davis immediately appointed him Surgeon-General, C. S. A., and he took up the task of creating an efficient medical and surgical department out of the lamentably insufficient material at his disposal. He immediately established extensive laboratories for converting medicinal plants of Southern fields and forests into appropriate preparations to distribute to the field and army hospitals. He established efficient ambulance corps for field and hospital service, found suitable men to operate them.

He found over 3,000 surgeons and assistant surgeons who cared for 3,000,000 cases of wounds and disease during the four awful years the struggle endured. One item in the history of his department is worth considering when we read, in garbled histories of the war, accounts of the sufferings of Union prisoners in Confederate prisons. Unmindful of their bearing, accurate clinical records of all wounds or disease were demanded from the acting surgeons and internes by their superior medical officials. At the end of the war they were taken charge of by the Federals, wherever and whenever possible, and have been kept inviolate to this day. They show, in figures that cannot be doubted, that the percentage of deaths of Union soldiers who were prisoners of war in Confederate prisons was but little over eight (8) per cent, while the death rate of Confederate prisoners in Union hospitals in Northern prisons was more than twelve (12) per cent. This shows a comparison in efficiency of which Southern medicine need not be ashamed. During these Herculean labors Dr. Moore found time to edit "The Confederate States Medical and Surgical Journal," to publish "A Manual of Military Surgery," and to found "The Association of Army and Navy Surgeons of the Confederate States." It is this last named organization that is undertaking, with the aid of all Southern doctors who honor courage, ability and undying loyalty, to erect in Richmond, the center of his labors, an enduring monument worthy of the Cause, the City and the Man.

Their action has been indorsed by the federation of the United Confederate Veterans, The United Daughters of the Confederacy, The Confederate Southern Memorial Association, the Medical Society of Virginia, the Association of the Alumni of the Medical College of Virginia, the Southern Medical Association, and others.

They appeal to all associations organized to honor the Confederacy and its heroes, to support the movement by asking their members to contribute a sum, however small, through their financial officers. Dr. Samuel E. Lewis, 1418 Fourteenth St., N. W., Washington, D. C., Chairman of the Monument Committee, will receive and account for all contributions.

ANOTHER MEDICAL GRAFT.

The attention of the JOURNAL has been called to a custom prevailing in some cities to a greater or less extent which is as iniquitous as the fee-splitting which has caused so much unfavorable criticism.

In this instance certain opticians are constrained to allow a commission to certain oculists on every prescription which they fill on the order of the oculists in question. The opticians have a regular scale of prices for this class of work, but when a commission is demanded it necessitates an advance over the proper price for glasses. It has happened that certain opticians have lost business by re-

fusing to allow commissions on the prescriptions of the oculists.

Naturally, the added cost is paid by the patient. The oculist examines the eyes, writes a prescription, and says to the patient: "Take this to Mr. So and So. He does all my work." Inevitably his directions are obeyed, and the patient is robbed to the amount of the extra charge. There is no difference in principle from this petty graft and that of the doctor who counts his "rake-off" with the connivance of the eminent surgeon. The practice should receive the unqualified condemnation of every medical society and of every individual member thereof. In the office of every oculist should be prominently posted a list of reputable opticians within his territory, and the patient should be referred to that list to make his own selection. At every eye dispensary there should likewise be displayed a list of the opticians who will fill dispensary prescriptions at cost. In every city there are such opticians to be found.

The combined influence of the medical and surgical societies everywhere should be directed to the demolition of such unethical conduct. When once the general public is made to recognize the unfair treatment they are receiving the indignation that will be aroused will be more than any oculist or optician would care to face.

SATISFACTION.

To every man, to every enterprise, there comes a time when the magnitude of opportunity that is presented almost daunts the controlling spirit whose guiding hand directs the efforts of the future.

Such a day has dawned upon the SOUTHERN MEDICAL JOURNAL. It sees in its list of contributors and correspondents the brightest names in Southern medicine and surgery. It has won recognition from the leading medical authorities of the country. It has been chosen as the medium through which some of the latest advances in medicine have been presented to the medical world. Its example in supporting only ethical advertising is being followed by leading medical journals all over the land. Its files contain, ready for publication, a profusion of high-grade articles by men whose contributions are desired by every standard medical periodical, and its editorials are everywhere accepted as sincere and authoritative. Surely such splendid results achieved in a time so comparatively brief are just grounds for a little self felicitation. Only one shadow mars the bright present, a shadow cast by the awful cloud that glooms over the eastern hemisphere and seriously affects the financial condition of all of us here, no matter what may be our calling. When at last that shadow passes and Dixie land once more basks in the sunshine of the prosperity natural to her, the SOUTHERN MEDICAL JOURNAL hopes to be found at its post, triumphant over difficulties past, and welcoming the inevitable success for which, with the aid of its thousands of friends, it has labored. And our watchword is still, Forward!

DR. OSCAR DOWLING, BENEDICT.

The Louisiana newspapers have announced in congratulatory phrases the wedding, on the 16th of March, of Dr. Oscar Dowling, State Health Officer of Louisiana, President of the Southern Medical Association and associate editor of this JOURNAL, to Mrs. Lula Tendal George, at the home of Mr. and Mrs. Morgan T. George, on North Second Street, Monroe, La., Rev. Dr. C. S. Newman, pastor of the First Presbyterian Church, officiating. The wedding tour was taken on the Health Train, at least as far as Alexandria.

In view of the official connection of Dr. Dowling with the Southern Medical Association and its official organ, the JOURNAL suspends the rule against publishing wedding notices on the editorial pages. The event is one in which every member feels a sincere interest and we only voice their sentiments as well as our own when we congratulate the

high contracting parties upon their union and express the hope that it will result in a long and perfect copartnership through life, happy in mutual affection and esteem and brightened by the joys naturally pertaining to such auspicious matings.

When, at Richmond, Dr. Dowling was inaugurated President of the Southern Medical Association, he remarked that Dr. Martin, the first President; Dr. McGuire, the retiring President, and himself were all bachelors; but that he would there contract and agree to bring his bride with him to the Dallas meeting in 1915 if they would do likewise. Under the circumstances it is "up to" Drs. McGuire and Martin to be preparing to fulfill their share of the bargain.

THE SEVENTH PAN-AMERICAN CONGRESS.

The distinguished body of eminent men organized under the above title, and who are to meet in San Francisco June 17 to 21, is worthy of the earnest support of every progressive physician. The names of the physicians participating are a warrant for the excellence of the work to be done and the catholithicity of the medical profession is beautifully illustrated by the promptness with which the physicians of thirty-two countries, colonies and municipalities, speaking many different tongues, took hold of the enterprise and carried it to a triumphant success. Dr. Charles A. L. Reed, the President, is well and favorably known to the medical profession, having served in a similar capacity in the American Medical Association.

WITH TEXAS DOCTORS TO THE A. M. A.

The Committee on Transportation of the Texas State Medical Association, of which Dr. Holman Taylor, Secretary of the Association and editor-in-chief of the *Texas State Journal of Medicine*, is Chairman, is arranging for a party of Texas physicians to attend the American Medical Association at San Francisco next month. A most cordial invitation has been extended by the committee through Dr. Taylor to the members of the Southern Medical Association, in the other states comprising the association, to join with the Texas doctors on this trip. More detailed information as to route, etc., can be secured from Dr. Holman Taylor, Secretary, Western National Bank Building, Fort Worth, Texas.

BOOK REVIEWS

Handbook of Medical Entomology.

By Wm. A. Riley, Ph.D., Professor of Insect Morphology and Parasitology, Cornell University, and O. A. Johannsen, Ph.D., Professor of Biology, Cornell University. Ithaca, New York, The Comstock Publishing Company, 1915. Postpaid, $2.20.

This is a well finished work of some 250 pages, profusely illustrated and full of useful information. It is calculated to relieve the average reader of many unfounded fears he has entertained of various ugly bugs, worms and insects, but it leaves a wholesome respect for others. It derides the tarantula legends but warns against jet black spiders with bright red or yellow marks, and the ordinary hunting spider is not as innocent as reputed. The common electric light bug is not hideous for nothing. It is ferocious, and one has been known to kill a small bird. Then the water beetles are not so innocent as they seem, but are poisonous. There is a bug sometimes seen in the South, where it is called the "big bedbug," which is a savage blood sucker with a serious poison in his bite. The brown, horny-backed thousand-leg worm is innocent, but the smaller, gray, brittle centipede has poison in its claws. The work is in every way worthy of commendation.

Though it is not universal in its scope, and more careful proof-reading is desirable, yet it accomplishes its object of familiarizing the reader with the appearance and character of the various small, visible forms of life dangerous to our well-being. It is very fully illustrated with pictures and diagrams, and elaborates the latest theories of the transmission of germs through the agency of insects.

Diabetes Mellitus. Designed for the Use of Practitioners of Medicine.

By Nellis Foster, M.D., Assistant Professor of Medicine, Cornell University; Associate Physician to the New York Hospital. Philadelphia and London, J. B. Lippincott Company.

This book aspires to be "a critical presentation of the evidence as it exists at present" between the point of view of the pathologist, the biological chemist, and that of the clinician. In the beginning normal metabolism is briefly considered from the viewpoint of cells, their internal chemical changes and their interchanges of nutrient and refuse material with the surrounding fluids.

Next is studied glucose and its sources in the animal body, in which study experimental glycosuria plays an important part, including that form due to phlorhizin. The author ascribes the immediate cause of glycosuria to: (1) An increased permeability of the kidney; (2) changes in the blood sugar, and (3) increase in the blood sugar.

A brief but interesting history of diabetes is given in Chapter VI, beginning 150 A.D. It seems that the sugar in diabetic urine was first demonstrated by "Dobson" in 1774. A varied etiology is given but with nothing new or valuable. In pathology quite an interesting discussion is presented, but this also offers nothing new.

In Chapter X he describes "Renal Diabetes," a glycosuria ascribed to "increased permeability of the kidney." In these cases a carbo-hydrate diet does not increase the amount of sugar passed, and none of the typical symptoms are present. Treatment depends, as usual, upon variations of diet. The chemical equivalents are the same as they have long been known. On the whole, though it may be convenient for a doctor to have this book on account of its practical description of the disease, yet it must be said that it presents but little that is new or of importance.

The Philosophy of Radio-Activity, or Selective Involution.

By Eugene Coleman Savidge, New York Academy of Medicine, etc. William R. Jenkins Co., Publishers, New York. Octavo, cloth, $1.50 net.

The book published under the above name is one that cannot be reviewed satisfactorily except by extensive quotations. The few following extracts will explain the meaning of this statement:

"Radio-activity, uncoiling from uranium downward, one hellum atom at a time, is the ebb of that energy. But what is coiled and what is uncoiled we still seek, though we know it by many names at its many points of manifestation."

The foregoing paragraph contains the foundation thoughts round which the studies circulate and upon which the theories are constructed. They lead to the coiling and uncoiling of the [illegible] coiling into new systems of spheres and uncoiling from old ones to the consideration of "The Great Elusive Something that Changes."

That the profound learning of the author has not led him to atheism the following sentence proves. "We do not find the organizer in the organization, as a principle immanent in matter; but we may read therein the indwelling of his genius and the pleasure of his mind."

There are many other phrases equally significant of a spiritual faith founded on physical truth. The reviewer cannot recommend this book for general reading, but for one who has the patience and the ability to penetrate to the deepest known researches into scientific investigation it should prove of interest.

Kirkes' Handbook of Physiology.

Eighth American revision. Revised by Dr. Chas. W. Greene. 8vo, 790 pages, illustrated with two colored plates and over 500 engravings in black and numerous colors. Wm. Wood & Co., New York. Extra muslin, $3.00 net.

Kirke's Handbook of Physiology has so long been the standard in medical schools that the appearance of an eighth edition is sure of a cordial welcome. Its thoroughness may be illustrated by a reference to its manner of dealing with the proteins. First it speaks of the synthetizing of a protamine by the reversible action of a trypsin on amino acids "which were previously obtained by the digestion of the protamine." Then it defines the colloids, classifies the proteins broadly as Simple, Conjugated or Derived, with their subclasses. Then the characteristics of each class are given in full, including their symbolic chemical construction and varieties. The morphology of the blood and the development of the erythocytes is described and illustrated clearly. The mysteries of nervous transmission is attacked with convincing skill, and the methods taught for measuring the rapidity of travel of an impulse and the amount of stimulation a nerve can bear without fatigue are admirable.

Indeed, it is in its study of the nervous system as a whole, including every part thereof and the endless variety of its functions, that Kirke's Physiology excels. Some improvements have been made in this volume in the directions for laboratory experiments, generally to their advantage. Considerable new matter relating to internal secretions has been added, bringing that subject up to a level with the latest researches. There is no cause anywhere for adverse criticism. The book is now, as it has always been, an ideal textbook on physiology. Also it is an unusually large and elegant book for the price.

Medical Electricity and Rontgen Rays and Radium.

By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second edition, thoroughly revised and enlarged. Octavo of 1219 pages, with 798 practical illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $7.50 net; Half Morocco, $9.00 net.

A careful inspection of this work shows it to be thoroughly reliable, and also up to date as far as is to be expected of a book on a subject which is rapidly advancing. The technic recommended is very practical, though the work is not as rapid as can be accomplished by those who can disregard the added expense of many spoiled tubes.

It seems to the reviewer that more condensation of subjects and somewhat less of detail would have resulted in a smaller but equally useful book.

The beginner will be daunted by its great size, over 1,200 pages, and the expert will consider very much of even its best efforts entirely unnecessary as far as he is concerned.

The illustrations of all kinds are very fine and carry their messages lucidly.

The International Clinics, a Quarterly.

Philadelphia and London: J. B. Lippincott & Co. Price, $2 per volume.

The entire twenty-fourth series of the above publication, for 1914, in four volumes, in the well-known wine-colored binding, is on the reviewer's desk. If there were room available several pages of the Journal could be profitably devoted to an extended notice of their contents, but when contributors are constantly appealing for the more prompt publication of their valuable articles, brevity must characterize reviews.

Volume I deals with "Treatment" of various conditions. "The Importance of Frequent Medical Examinations," "The Ulcer Suspect," "Alimentary Toxaemia, and Skin Diseases," "Thrombosis and Embolism," "Surgical Treatment of Infantile Paralysis," "Interesting Surgical Cases"—principally bone cases—and the "Progress of Medicine During 1913." Under the latter head the improvement in medical education and the reduction in the number of medical graduates is considered. The estimate given is that "this decrease will, in fifteen years, diminish the ratio to half what it is at present," so that there will be by that time only about one physician to 1,200 people. At five dollars each per annum for that number of inhabitants it would amount to a salary of $6,000 to that one physician. This article is the composite production of Drs. Henry W. Cattell, James A. Walk and Samuel E. Wilson, all of Philadelphia, and suggests curious possibilities.

Volume II deals with "Diagnosis and Treatment," "Medicine," "Surgery," "Obstetrics," and "Child Welfare." It contains between 70 and 80 illustrations. Some very interesting points are presented by "The Present Status of the Roentgen Ray." The vexed subject of "The Open Operation for the Fixation of Fractures" is presented by Frank Martin, of the University of Maryland. A brief but notable contribution is "Blood Transfusion by Vein-Puncture Method," by William A. Steel, of Philadelphia. The last article is a powerful plea for the "Teaching of Sex Hygiene," by Maria M. Vinton, A.M., M.D., Medical School Inspector, New York City.

Volume III treats of the same general subjects as the preceding, with the addition of 25 pages on "Electro-therapeutics." The uses of static electricity in treatment are thoroughly considered, especially in neuritis, though other mental and nervous conditions are studied. Some interesting experiments in "Prophylactic Vaccination Against Pertussis" resulted in only a doubtful degree of protection. One of the most interesting features is a brief article by Ralph Pemberton, of the Presbyterian Hospital, Philadelphia, on the "Nature and Successful Treatment of Rheumatoid Arthritis." Every physician is anxious to learn of some "successful treatment" for that mysterious and obstinate condition.

Volume IV contains about thirty articles, among which are "Abderhalden's Biological Diagnosis of Pregnancy," Longaker on "Painless Childbirth or Semi-Narcosis in Obstetrics," two papers on Pneumonia, three on Radium and one by Gustavus Eliot on "The Most Valuable Drugs of Vegetable Origin," among which none of the newer drugs find place. He selects ten drugs giving each a synopsis of its uses. They are opium, quinine, aconite, digitalis, ergot, ipecac, belladonna, aloes, gelsemium and strychnine. Under "Surgery" 25 pages are devoted to "A Visit to the Mayo Clinics in Rochester." Under "Medico-Legal" Lorenzo D. Bulette Esq., contributes "Performing an Operation Wiothut the Consent of the Patient.

To undertake to criticize International Clinics would be an unnecessary task. Their standard is known to the entire medical world. The physician who is systematically accumulating a modern medical library buys them as a matter of course. Whether it pays other doctors to purchase occasional copies is for them to decide. This review can only hope to present a few brief hints as to the matter they contain. Finally, the physical workmanship of the volumes is all that could be desired, and many of the colored plates are really works of art.

A Reference Handbook of the Medical Sciences.

Embracing the entire range of Scientific and Practical Medicine and Allied Science. By various writers. Third edition, completed, revised and rewritten. Edited by Thomas Lathrop Stedman, A.M., M.D. Complete in eight imperial quarto volumes. Volume IV, 925 double-column pages. illustrated by 973 engravings and 5 full-page plates in colors. Wm. Wood & Co., New York. Price, cloth, $7; leather, $8, half Morocco, $9, net.

To write of such a work anything worthy to be called a review would require far more space than can be allotted to it here. The book is really a gigantic undertaking perfectly carried out. A glance at the list of contributors reveals such names as Charles Lewis Allen, of the University of California; Adolf Alt, of Washington University; Bartlett, of Yale; Dawborn, of Fordham, and scores of other famous men contributing to the number of 444 special articles. They tell the tale of a treasury of recent medical and surgical knowledge unsurpassed. The illustrations, however, are not uniformly of high grade, but the colored plates are superb. The reference handbook occupies a place in medical literature that is highly important, and the editors and publishers are to be congratulated on their success in achieving a notable work.

Embryology.
Qualitative Chemical Analysis.
A Laboratory Manual of Qualitative Chemical Analysis.

By A. R. Bliss, Jr., M.D., Ph.G., Professor of Chemistry and Pharmacy in the Birmingham Medical College. Octavo of 241 pages, with working tables. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, $2.00 net.

This is a compact, well-constructed book of 240 pages, conveniently arranged for use by students or investigators. It is divided into paragraphs of convenient length, and at suitable intervals blank pages are interpolated for personal notes and observations. There is an abundance of

working tables, and altogether the work seems complete. Chemistry is a positive subject, like mathematics, and so long as its statements are correct, lucidly expressed and sufficiently comprehensive, there is little else to be said about any book devoted to its teaching. Such seems to be the condition in the work under consideration.

A Laboratory Manual and Text-Book of Embryology.

By Charles W. Prentiss, A.M., Ph.D., Professor of Microscopic Anatomy in the Northwestern University Medical School, Chicago. Octavo of 400 pages, with 368 illustrations, many of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $3.75.

The fascinating subject of embryology is adequately expressed in this elegant volume. Every step in the development of the perfect organism from the original cell is minutely studied, and the diagrams and illustrations are all that could be desired. No one who carefully considers the development of, say the caustic ganglia and nerves, or the pneumogastric nerve, as shown and described in this volume, can fail to be impressed with the wonder and mystery of it all. It is a small mind that can see therein nothing but a series of physico-chemical developments unalterably fixed by eons of accidental subdivisions, for if the principle that still guides and controls development originated without conscious direction it was, and is, a gigantic fortuity.

Looking at the book from a "practical" standpoint, the reviewer can find nothing superfluous or to be desired. Every specialist in embryology will have ideals hard to be realized in any single publication, but even such an one would find this work ample for teaching purposes in any medical college laboratory.

SOUTHERN MEDICAL NEWS

ALABAMA.

At Mobile, Dr. E. D. Bondurant, Dean of the Medical School of the University of Alabama, has been quite ill, having had alarming hemorrhages from his stomach. He has improved sufficiently to be taken to Philadelphia for an operation.

At Tuscaloosa the school inspector has found about 60 or more cases of trachoma in the public schools. The city has employed a trained nurse to look after these children. Those with purulent lesions are sent home and report at school at regular intervals for treatment by the nurse. Dr. I. E. Herring, of the U. S. P. H. Service, is present at the request of the county health officer to make a survey of the county.

The city and county of Tuscaloosa have elected an all-time health officer, who takes the place of the City and County Health Officer and School Inspector, thus assuming the duties of the previous three men. Dr. J. J. Durrett, of Tuscaloosa County, a recent graduate of Harvard, was elected at a salary of $2,400 a year.

The Druid City Infirmary Association, a recent corporation of local physicians, has taken over the Williamson & Faulk Infirmary, on Broad Street.

At Decatur the city water supply has been analyzed by Ray C. Warner, of Atlanta, of the Georgia State Health Department, and declared "free from all bacteria which would cause diseases in human beings."

Dr. R. M. Cunningham, City Health Officer of Birmingham announced March 30th that there were 65 cases of scarlet fever in the city. The number of cases of smallpox was rapidly diminishing, but there was a large increase in the number of cases of measles, there being over 135 cases. During the month of February there were seventeen accidental deaths. There has been a very large decrease in the negro birth rate.

Dr. H. N. Rosse, County Health Officer of Jefferson County, states that about one-fourth of all the cases of hydrophobia reported in Alabama come from Jefferson County, and that figures show that the disease is on the increase in the county. He orders the muzzling of all dogs allowed to run at large.

The State Board of Medical Examiners during March examined 35 applicants for licenses to practice medicine. Fourteen of the applicants were successful.

Dr. Charles A. Mohr, City Health Officer of Mobile, announces that during the past few months the watershed has been so thoroughly protected that for the past month no colon bacilli were found in the city water. House to house inspection continues. The death rate per annum in Mobile for February was 15.89.

At Montgomery during February and March between five and six thousand people have been vaccinated by the city physicians, and an equal number have been issued to the physicians of the city free. The provisions for patients at the smallpox hospitals are ample, the care is excellent and entertainment is provided. It is estimated that including school children nearly 1,200 persons have been vaccinated.

Deaths.

At Columbia, March 16th, Dr. A. B. Harrison, aged 82 years.

At Dixon's Mills, January 12th, Dr. J. S. Skinner.

At Vincent, February 18th, Dr. B. H. Smothers, aged 50 years, from pneumonia.

ARKANSAS.

The State Medical Association meets in Little Rock on Monday, Tuesday, Wednesday and Thursday, May 3, 4, 5, 6, 1915.

At Ft. Smith, March 14th, the Tenth Councilor District of the Arkansas Medical Association met at the Hotel Main. In the absence of the President, Dr. J. A. Fergus, the Vice-President, Dr. Clark Wood, presided.

At Little Rock Dr. J. B. Dooley, superintendent of the Logan H. Roots Hospital, has tendered his resignation, to take effect April 1st, and it was accepted. Dr. Milton Vaughan will have charge of the hospital until April 13th, the legal beginning of a new term. No reason for the resignation was assigned.

The Pulaski County Anti-Tuberculosis Society reports that the nurse has made 97 visits to the homes of patients and given instruction in sanitation. The society is supported by voluntary contributions and the sale of Red Cross seals.

At the regular March meeting of the Pope County Medical Society at Russellville the following officers were elected: J. W. Powell, Russellville, President; A. W. Darr, Atkins, Vice-President; L. D. Berryman, Russellville, Secretary-Treasurer.

Deaths.

At Bardestown, March 9th, Dr. Paul G. Noack, aged 47 years, from gunshot wound.

At Greenwood, February 14th, Dr. E. L. Hesterly, aged 71, from cerebral hemorrhage.

FLORIDA.

The State Medical Association meets in DeLand, Wednesday, Thursday and Friday, May 12, 13 and 14.

At Tampa, March 31st, Mayor D. B. McKay attended a health lecture given at the colored academy by Dr. A. W. Culp, colored, in the interest of better sanitary conditions.

The State Board of Health has issued an address urging that education in health matters should be made a part of the curriculum in schools all the way from the kindergarten to the college.

At its annual meeting the board authorized the State Health Officer to employ four additional educational workers in a tuberculosis eradication campaign. They are to be women.

At Pensacola in March a vigorous campaign against mosquitoes was conduucted by Commissioner Johnson. Ponds were drained and oiled, and ditches cleaned and oiled. The city prisoners were made to assist.

The State Board of Health has discovered that Texas fever, which is transmitted by the fever tick, exists among cattle to a slight extent in Dade County. Consequently on and after May 1st all intra-state movements of cattle into or out of Dade County must strictly comply with the regulations of the U. S. Department of Agriculture pertaining to such cases.

Death.

Near St. Petersburg, March 24th, Dr. J. H. Alvord died at his winter residence of heart disease, aged 77 years.

GEORGIA.

At Savannah, Dr. H. H. Martin, of Savannah, Chairman of the Council of the Southern Medical Association, was severely injured by the overturn of an automobile belonging to Mr. Robertson Marshall, of Westport, N. Y. Dr. Martin had his right arm broken, was deeply gashed across the forehead and severely bruised about the body. Mrs. Marshall was instantly killed, and her husband and daughter badly injured. Dr. Martin is rapidly improving.

At Macon no milk is allowed to be sold in the city from cows that have not been inspected for tuberculosis. Last year the inspection resulted in the condemnation of several dairy cows. It has been found, however, that the ordinance as drawn does not cover restaurant keepers, as well as dairymen, and would have to be amended.

The Decatur County Medical Association has elected the following officers: G. T. Clark, of Bainbridge, President; B. Whisnant, of Brinson, Vice-President; Gordon Chason, of Bainbridge, Secretary-Treasurer.

At Columbus, County Commissioner Scarborough announces that the smallpox which had prevailed to a limited extent in the eastern part of the county has been eradicated.

At Blakely, March 29th, Dr. T. E. Sheffield, of Cedar Springs, was shot and instantly killed by his wife just as he entered his office. It is said that jealousy was the motive for the killing. Five shots were fired, only the last of which was effective. Dr. Sheffield was about 35 years of age and leaves three children.

At Atlanta it has been arranged that the Atlanta Medical College shall be merged with the new Emory University. It is stated that Asa G. Candler, who has given freely to Emory, expects to make the necessary arrangements to place the medical department on a par with the best in the country.

At Columbus the death rate for March was only 9.75 per thousand. Five deaths were from pneumonia. Four who died were over 70 years of age.

At Dublin, in April, a hookworm campaign was conducted in Laurens County. Of 600 patients examined 588 were found infected. The ages ranged from twelve to sixty-three years.

Deaths.

At Atlanta, March 18th, Dr. Robert J. Massey died at the Soldiers' Home, aged 86 years.

At St. Joseph's Hospital, Atlanta, Dr. John C. Haskell died March 17th, aged 42 years.

At Philomath, February 16th, Dr. William T. Nash died suddenly at his home.

KENTUCKY.

The Kentucky State Association of Railway Surgeons will hold their annual meeting at the Seelbach Hotel, Louisville, May 6th and 7th. A most excellent program has been prepared.

At Louisville the County Board of Health has taken steps to stop the dumping of garbage and rubbish at places in the county not specified as regular dumps. Warrants will be issued against such offenders.

At Greenup, March 16th, a report was received from Russell that there were about 100 cases of measles prevailing, and that the public schools were to close.

At Paducah, Dr. H. P. Lynn, City Health Officer, has issued an order against the open pitcher of milk in restaurants. It is to be served in bottles like those of the dairymen.

At Murray, March 12th, the Calloway County Medical Society elected the following officers:

E. B. Curd, President; J. V. Stark, Vice-President; A. V. McRee, Secretary-Treasurer.

At Winchester, March 19th, at a meeting of the Clark County Medical Society the sum of $1,000 was raised for the hospital fund.

At Owensboro, Health Week was observed by the colored people in concert with those throughout the South generally, at the suggestion of Booker Washington and the colored leaders.

At Lexington late in March an epidemic of measles prevailed in the State Odd Fellows' Widows and Orphans Home and the institution was quarantined by the city. More than 100 juvenile inmates were exposed.

The government has announced that there are about 3,300 cases of trachoma in the counties of Letcher, Perry, Leslie and Knott. Clinics were held in each of the four county seats.

At Henderson 71 cases of measles for February were reported by Health Officer Griffin. There were no deaths from that cause.

At Versailles Dr. Samuel M. Stedman fractured his right arm while cranking his automobile.

Deaths.

At Owensboro, March 13th, news was received of the death of Dr. O. M. Townes, of Madisonville, aged 76 years. He was a Confederate veteran.

At Clinton, March 13th, Dr. J. Y. Beeler died.

At Erlanger, March 31st, Dr. John A. Minish, aged 38 years, died at the home of his father.

At Hopkinsville, March 29th, Dr. Robert J. Rivers, aged 34 years, died of rupture of the gall bladder. He was formerly city physician of Paducah.

At Cynthiana, February 14th, Dr. John Van Deren died, aged 44, from pneumonia.

At Columbia, February 22nd, Dr. William R. Grissom died at his home, aged 61 years.

At Blandville, March 7th, Dr. David Polk Juett died at his home, aged 78 years. He was surgeon of the Seventh Kentucky Cavalry, C. S. A.

At East Bernstadt, January 25th, Dr. Harvey S. Pitman died, aged 69 years.

LOUISIANA.

At Napoleonville, the Assumption Medical Society elected the following officers: W. E. Kittredge, President; Henry C. Dansereau, Vice-President; Charles S. Roger, Secretary, and W. W. Pugh, Treasurer.

At Mandeville, the City Board of Health has been reorganized as follows: Drs. A. G. Maylie, R. Bailey, R. Paine and Charles David, with Dr. Van Zant as President.

At New Orleans Judge Foster has decided that the right of the city to protect the health of its inhabitants is unquestionable, and declined to enjoin the enforcing of the rat-proofing ordinance.

At Napoleonville, March 11th, the Mayor and Board of Aldermen met in special session to fill vacancies in the Town Board of Health. The following were appointed: Dr. Charles F. Roger and Messrs. Francis J. Rodrigue and Leo Guillot.

Dr. J. A. Danna, of New Orleans, has received a diploma from the King of Italy conferring upon him the Order of Knights of the Crown of Italy, as a reward for the excellent services the doctor has extended to his fellow countrymen in the United States.

Deaths.

On March 18th, Dr. John L. Tarlton, of Lydia, died in New Orleans, aged 28 years.

At Algiers, February 27th, Dr. John A. Rupp died at his home from pneumonia, aged 36 years.

At Abbeville, February 14th, Dr. Pierre Clement Tircuit died at the home of his daughter, aged 77 years.

At New Orleans, February 26th, Dr. Lee Dreisbach, of Collinston, died as the result of a surgical operation, aged 52 years.

MARYLAND.

At Cumberland, March 23rd, the City Board of Health forbade the establishment of cellar bakeries in the city. It also instructed Health Officer Colton to advise a certain school mistress of Centre Street to place her recitation rooms in the condition required by the ordinance governing public schools in regard to ventilation and sanitation. The appointment of a dairy inspector was approved, and it was suggested that the anti-spitting ordinance be enforced by the police.

At Milton late in March several cases of measles were reported, and the board of health installed extra precautions to prevent an epidemic.

Deaths.

Near Baltimore, at his home at Roland Park, Dr. Samuel Claggett Chew, an eminent physician, widely known, died at his home March 23rd, after a long illness with heart disease, aged 78 years.

In Hagarstown, March 28th, Dr. John M. Gaines died at his home, aged 77 years. He was a Confederate veteran.

At Lewistown, February 27th, Dr. Thomas E. R. Miller died in his office from heart disease, aged 73 years.

At Pittsville, March 15th, Dr. Greensbury W. Freeny died at his home, aged 78 years.

MISSISSIPPI.

The State Medical Association meets in Hattiesburg on Tuesday, Wednesday and Thursday, May 11, 12, 13.

At Starkville the Clay-Lowndes-Oktibbena and Noxubee County Medical Society elected the following officers: President, E. Lehmberg; Vice-President, R. S. Jamison; Vice-Presidents, A. K. Naugle, C. R. Dodds; Secretary-Treasurer, J. M. Stanley.

At Jackson, employes of the Federal Government have been notified that civil employes whose duties require them to travel or handle mail or other material to be carried in interstate traffic may receive without cost vaccination against smallpox or typhoid fever at those places designated by the Surgeon-General of the U. S. P. H. Service, Gulfport, Gulf Quarantine, Natchez, Pascagoula and Vicksburg.

At Mt. Herman, March 23rd, Dr. J. M. Brock fell from his buggy and was severely injured.

Deaths.

At Benoit, February 18th, Dr. H. L. Sutherland

(Continued on page xx.)

HANDBOOK OF MEDICAL ENTOMOLOGY

Wm. A. RILEY, Professor of Insect Morphology and Parasitology, and
O. A. JOHANNSEN, Professor of Biology, Cornell University.

A concise, up-to-date reference and text on parasitic and poisonous insects, especially those which transmit disease, with keys for determining the principal species affecting man. Invaluable to entomologists, physicians and health officers.

Bound in Library Buckram. 8 vo. Now Ready. 350 pp. Fully Illustrated. Postpaid $2.20

Prospectus on Application.

THE COMSTOCK PUBLISHING COMPANY

124 Roberts Place, ITHACA, N. Y.

MISS COMPTON'S SCHOOL
for
CHILDREN OF RETARDED MENTALITY

Founded 1901. Limited to ten pupils. Individual instruction. $1,000 to $1,500 for entire year. No extras. (Summer School in Ozarks.) Send for booklet containing physicians' references.

FANNIE A. COMPTON, Principal
3809 Flad Avenue St. Louis, Mo.

GEORGE RUCKER

Constitution Bldg. Atlanta, Ga.

SCIENTIFIC MOTION PICTURES
MICROPHOTOGRAPHS
LANTERN SLIDES. X-RAY SLIDES.
CORRESPONDENCE SOLICITED

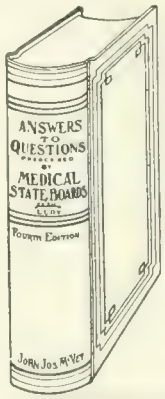
The American Negro
AS A
Dependent, Defective and Delinquent

By CHAS. H. McCORD, A.M.

This is the most comprehensive and authoritative discussion of the submerged Negro yet published. It is of good literary quality, frank and fair in treatment. It should be in the hands of every student of the perplexing "Negro Problem." **It is of special interest to physicians.**

Uniform with the proceedings of the Southern Sociological Congress, 342 pages, price $2.00 postpaid.

SOCIAL SERVICE BOOK CO.
205-7 Brown-Randolph Bldg. ATLANTA, GA.



ANSWERS TO QUESTIONS
PRESCRIBED BY
MEDICAL STATE BOARDS
By
Robert B. Ludy, M.D.

Fourth edition, 8vo, 776 pages; price, $3.75 net, prepaid.

Only original state board book, not an imitator. Has real questions asked, with accurate answers by specialists.

JNO. JOS. McVEY, Publisher.
1229 Arch Street,
Philadelphia, Pa.

Look for the RED HEART on the bottle label---no RED HEART, its not Stafford.

STAFFORD WATER

The BO-GA-HA-MA (Water of Life) of the Indians.

DIURETIC
DILUENT
APERIENT
HEMATIC

Dr. Henry Froehling, of Froehling and Robertson, Chemists, Richmond, Virginia, on Octobe 30th, 1914 collected in person water from Stafford Springs from which to make an exhaustive test. A complete report has just been made on the water---a report that justifies all the claims made of Stafford Water by its many friends.

Dr. Froehling in his report comments as follows:

"It has been shown that Radio Emmanations are very effective in Gout, Rheumatism, Sclerosis of the Arteries, and that the use of Radio Active waters either by drinking or bathing, have a strong tendency to increase the activity of the kidneys and bladder. This has perhaps been no uncertain factor in producing the many cures of Nephritis and other kidney troubles credited to the Stafford Mineral Water.

Stafford shipped in any quantity handled by all druggists
We have excellent hotel accommodations at reasonable rates

Stafford Mineral Springs and Hotel Co., Ltd.

Operated by COLBURN MORGAN COMPANY,
VOSSBURG, MISS.

Look for the RED HEART for genuine Stafford Water. ***Write for booklet and analysis.***

Please mention The Southern Medical Journal when you write to advertisers.

(Continued from page 442.)

died suddenly of apoplexy, aged 66 years.

At Biloxi, in March, Dr. J. J. Lemon died at his home, aged 90 years.

NORTH CAROLINA.

At Winston-Salem the Health Department has occupied the third floor of the municipal building and fitted it up appropriately. A suite of three rooms has been assigned to Health Officer Jenkins.

Six communities in North Carolina have adopted the plan of health work of the Rockefeller Hookworm Commission. Almost every person in these six communities has been examined for hookworm, and treated, if necessary, and sanitary closets installed in all homes and public buildings.

At Raleigh, Dr. J. R. Gordon, of the State Board of Health, has visited Tarboro and Reidsville, where he prosecuted two physicians for failing to report their vital statistics.

On the night of March 12th Dr. W. R. Rankin, Secretary of the State Board of Health, was elected President of the Raleigh Young Men's Christian Association, to succeed Mr. E. B. Crow, resigned.

Another case of smallpox was discovered at the jail. His vaccination failed to take, and he is the only one of all the prisoners who were "scratched" who took the disease. All the rest have sore arms, but no smallpox.

On March 1st the Rockefeller Hookworm Commission withdrew from the state. Dr. W. P. Jacocks, who has been in charge, will go to St. Vincent Island to continue the work. Three field directors are now completing the work.

The fifteenth biennial report of the State Board of Health for 1913-1914 is being sent out from the office. It covers 366 pages.

The County Board of Health of Pitt County has elected Dr. M. T. Edgerton whole-time county health officer. He is from Fremont, N. C. This makes ten counties in the state with whole-time health officers.

Deaths.

At Charlotte, March 21st, Dr. John G. Black, aged 73 years.

At Charlotte, March 24th, Dr. R. Sydney Cauthen died at his home, 116 Park Drive, aged 43 years, from disease of the heart.

At Morganton, April 1st, Dr. Charles Ellis Ross died suddenly of pneumonia after a short illness, aged 53 years.

OKLAHOMA.

The State Medical Association meets in Bartlesville on Tuesday, Wednesday and Thursday, May 11, 12 and 13.

Dr. W. A. Kendall, Crescent, has suffered with a badly sprained ankle in March.

Dr. G. R. Norman of Luther, has recovered from a severe attack of pneumonia.

Dr. R. H. Harper, of Afton, was operated upon successfully in March for ulcer of the stomach.

Dr. F. C. Christian and Dr. C. VonWedel, both of Oklahoma City, have been visiting clinics in eastern cities.

It is stated that in Oklahoma City first aid to and the caring for the injured is handled at high efficiency.

Mayor Whit M. Grant, of Oklahoma City, issued a proclamation designating April 3rd as the day when the city should remove all refuse piled outside the homes free of expense. The city is proud of its efficient sewer system and paved streets and alleys.

Deaths.

In the Wichita, Kans., hospital, February 24th, Dr. Merit G. Witter, of Tonkawa, Okla., died from carcinoma of the stomach, aged 75 years.

At Cushing, January 28th, Dr. James W. Wells died at his home, aged 74 years.

SOUTH CAROLINA.

At Charleston, City Health Officer Green advises all people who are not protected to be vaccinated, although he declares there is no present danger of an epidemic of smallpox. The few cases found in the city have been isolated at the U. S. Quarantine Station. Dr. Green is actively enforcing ordinances relative to foodstuffs and their protection from infection by dust and flies.

On January 1st Dr. Edgar A. Hines, of Anderson, editor-in-chief of the Journal of the South Carolina Medical Association, was appointed Superintendent of the Anderson County Hospital. Dr. Hines will have the Journal office removed to the hospital building. The Anderson County Medical Association has provided a library for his use in the work of the journal.

At Charleston the students of the medical college were deputized as assistant sanitary inspectors, and assumed the duty of inspecting the streets and premises in the city and directing their sanitation.

At Columbia Dr. O. R. Avison, a medical missionary to Korea, delivered a lecture upon his 22 years of work in Seoul.

At Heath Spring a new board of health has been constituted as follows: H. A. Horton, H. P. Mobley, J. A. Sims and Dr. W. S. Moore. S. J. Vincent was appointed enforcement officer.

At Columbus, Dr. Herbert M. Smith, Richland County Health Officer, has made a medical inspection of the schools of the county and their sanitary condition, and a medical examination of school children under the age of twelve years.

Deaths.

At Fountain Inn, March 23rd, Dr. S. S. Knight died at his home, aged 77 years.

At Mobile, March 26th, Dr. J. E. Hair, of Greenville, died on his way home from Arizona, aged 26 years.

At Blacksburg, March 14th, Dr. John G. Black, a Confederate veteran, died at his home, aged 72 years.

At St. Matthews, February 27th, Dr. L. M. Able died suddenly from myocarditis, aged 45 years.

(Continued on page xxii.)

SHERMAN'S BACTERINS

39 DIFFERENT PREPARATIONS
Put up in 1 c. c. glass sealed ampules
Package, 6 ampules, any variety, $1.50

Dr. Sherman's New Book
Devoted to the practical application of Bacterins. Cloth bound, 336 pages.

Price $1.50

The Bacterial Therapist
A 24-page monthly journal devoted exclusively to Vaccine Therapy. Free for one year upon request.

The Latest Development in Bulk Package

18 c.c. for $3.00
5 c.c. for $1.00

Patent applied for
G. H. SHERMAN, M. D.
Write for Literature. DETROIT, MICH.
U. S. License No. 30.

50% Better
Prevention Defense Indemnity

1 All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
2 Or his estate is sued, whether the act or omission was his own
3 Or that of any other person (not necessarily an assistant or agent)
4 All such claims arising in suits involving the collection of professional fees
5 All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
6 Defense through the court of last resort and until all legal remedies are exhausted
7 Without limit as to amount expended.
8 You have a voice in the selection of local counsel.
9 If we lose, we pay to amount specified, in addition to the unlimited defense.
10 The only contract containing all the above features and which is protection per se. *A sample upon request.*

The MEDICAL PROTECTIVE CO.
***of* Fort Wayne, Indiana**
Professional Protection, Exclusively

We Discard

All Puny, Starved Grains In Making Quaker Oats

We pick for this brand just the cream of the oats, and we get but ten pounds per bushel.

We apply hours of heat to them—dry heat and steam heat—then roll them into large and luscious flakes.

Thus we secure a superlative oat food, tempting in taste and aroma. We ship it all the world over.

Quaker Oats

This tempting dish involves no extra price. In every package we offer a perfect double cooker, which we have supplied already to 650,000 homes.

Thus we are aiming to make oat food both inviting and digestible.

10c and 25c per Package
Except in Far West and South

The Quaker Oats Company
Chicago (889)

(Continued from page xx.)

At Columbia, March 10th, Dr. T. G. Croft, of Aiken, died, aged 60 years.

TENNESSEE.

The County Commissioners of Walker County appropriated $150 to fight the hookworm. Dr. Will Henry, of the State Board of Health, manages the fight.

At Memphis, Dr. John C. Bell, City Health Officer, resigned his position in order to resume his private practice. He was succeeded by Dr. James L. Andrews.

At Memphis, March 21st, the surgeons of the Illinois Central and the Yazoo & Mississippi Valley Railroads met at the Hotel Chisca in their eighth annual meeting. The association has no permanent officers.

At Chattanooga the physicians are pleased with the passage of the bill by the legislature providing for the creation of a board of examiners who shall see that applicants for license to practice medicine have proper literary qualifications.

At Memphis, Dr. P. C. Kalloch, of the U. S. P. H. Service, has been relieved by Dr. J. H. White, recently stationed at New Orleans. Dr. Kalloch goes to Portland, Maine.

At Memphis, the Lynnhurst Sanitarium has completed and equipped its new buildings and is receiving patients therein. Dr. S. T. Rucker is in charge.

The Carroll County Medical Society has elected the following officers: President, L. L. Duncan; Vice-Presidents, H. T. Collier, J. J. Lancaster, and G. L. McDaniel; Secretary-Treasurer, B. C. Dodds.

Deaths.

At Tait, March 19th, Dr. W. J. Heacker died at his home, "Mineral Hill," aged 83 years.

At Kingston, March 14th, Dr. L. A. Stegall died at his home, aged 66 years. He leaves a widow and seven children.

At Chattanooga, March 4th, Dr. William H. Stephens died at his home, aged 37 years.

At Nashville, February 25th, Dr. Marion S. Hawkins died, aged 59 years.

At White House, February 13th, Dr. Lycurgus B. Walton died at his home, aged 87 years.

TEXAS.

The State Medical Association meets in Fort Worth on Tuesday, Wednesday and Thursday, May 4, 5, 6, 1915.

At Dallas the doctors, dentists and druggists of the city organized the D. D. D. Lunch Club, with Dr. H. B. Decherd President.

The Dallas County Medical Society, March 25th, [illegible] condemned the action of Governor Ferguson in attempting to remove a member of the board of managers of the San Antonio Asylum.

At Corpus Christi Dr. J. H. Shelton has removed to Kingsville.

The Travis County Medical Society has suggested to the school board of Austin that they revoke the ruling which bars the thirty days' absence from classes for students who have recovered from contagious diseases. The medical society affirmed that the board of health has made the necessary rulings.

At Houston a decision by Judge William Masterson, declaring the present lunacy statute unconstitutional, is creating great confusion as to the proper commitment of the insane. It is rumored that the jails are already filled with them.

At Temple, Mayor Watters has appointed the City Board of Health as follows: Dr. J. E. Robinson, President. Members: Dr. L. R. Talley, Dr. O. F. Gober, Messrs. W. W. Clement, T. J. Darling and Mrs A. F. Bentley. Miss Kate Sloan was appointed Secretary.

At Fort Worth a "Professor" C. E. Hyroop was found guilty of practicing medicine without a license. He was fined $500 and sentenced to ten days in the county jail.

At Dickinson, on the night of March 12th, the home of Dr. H. O. Shands, of Houston, was destroyed by fire. Nothing was saved from the building.

On Saturday, March 6, 1915, at a meeting in Houston, the Texas Surgical Society was formally organized. A constitution and by-laws were adopted, and it was voted that the charter members should be selected from among those whose practice is limited to surgery. The following officers were elected: President, James E. Thompson, Galveston; First Vice-President, J. H. Reuss, Cuero; Second Vice-President, F. B. Paschal, San Antonio; Secretary, W. Burton Thorning, Houston; Treasurer, J. B. Smoot, Dallas. Members of the executive council: John T. Moore, Houston; H. M. Doolittle, Dallas, and H. R. Dudgeon, Waco. Committee on semi-annual meeting: R. R. White, Temple, and F. C. Beall, Fort Worth. The next meeting will be held in San Antonio in October.

Deaths.

At Coupland, March 13th, Dr. E. H. Scharnberg died at his home, aged 48 years.

At Wharton, March 29th, Dr. John T. Bolton died at his home, aged 76 years. He leaves a widow and three children.

At Terrell, February 2nd, Dr. W. P. Childress died at his home.

At Mineral Wells Dr. C. F. Yeager died January 20th.

An San Antonio Dr. David M. Thurston died January 25th.

At Stillwell Dr. Fred. Helton died January 29th.

At Belton, March 16th, Dr. R. S. Farr died at his home, aged 76 years. He was a member of Mosby's Cavalry.

At Poolville, March 5th, Dr. Hugh L. Ray died, aged 80 years.

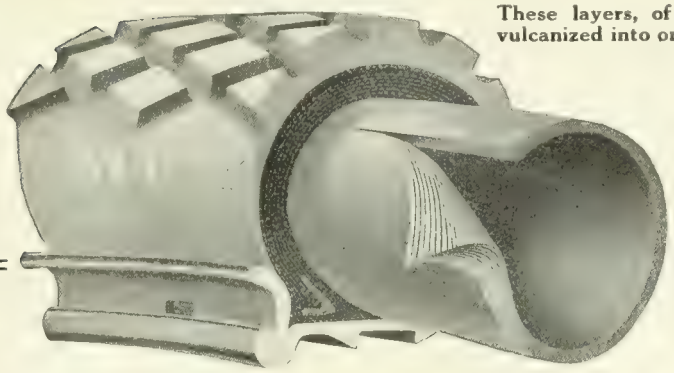
VIRGINIA.

At Hayfield, March 15th, Dr. C. R. Anderson condemned the use of the water used by the school for drinking. It is taken from a little brook with out buildings along its course.

At Richmond the Dumbarton School was closed for one week in March on account of the prevalence of scarlet fever in the neighborhood.

The Board of Visitors of the Medical College

(Continued on page xxiv.)



These layers, of course, are vulcanized into one solid tube.

Goodyear Laminated Tubes
Outlast Any Tire

We have built an Inner Tube—laminated and extra-thick—which outlasts any tire. Four Tubes outwear five Casings, on the average.

This year we have made them **still thicker.** To our smaller sizes we have added 12½ per cent. To our larger sizes, 16⅔ per cent of unadulterated rubber.

Yet, despite this increased weight—averaging 14 per cent—our prices are **one-fifth less.** On February 1st we reduced them 20 per cent. So these heavy, Laminated Tubes now cost about the same as others.

Built Layer on Layer

Goodyear Laminated Tubes are built layer on layer.

Tubes built by machines, of one thick piece of rubber, often have undiscovered flaws. We roll the rubber into sheets so thin that flaws can be seen and discarded. Then these sheets, wrapped layer on layer, are vulcanized into a solid rubber tube.

The valve patch—usually stuck on—is made a part of our Tube. No loosening here, no leakage.

This extra thickness, this pure rubber material, this layer construction and this leak-proof valve patch, make the Goodyear Laminated the greatest Inner Tube built.

Get This Extra Value

Lesser Tubes cost about the same as these do. In justice to yourself, get this extra value. Then remember that Goodyear Fortified Tires embody the same standards. They, too, excel all others—in five costly, exclusive ways.

Any dealer will supply Goodyear Tubes or Tires.

GOODYEAR
AKRON, OHIO
Laminated Tubes
Extra Heavy Tubes—Uncolored
Built Layer on Layer
By the Makers of Fortified Tires

They Are Gray

Goodyear Tubes are gray, the natural rubber color. Any other color requires mineral adulteration. Minerals absorb heat, the greatest foe of rubber. We cannot color without making short-lived tubes.

THE GOODYEAR TIRE & RUBBER COMPANY, Akron, Ohio

(3817)

Patronize our advertisers—mention the Journal when you write them.

(Continued from page xxii.)

of Virginia on March 23rd elected Dr. F. H. Haynes to succeed Dr. Francis W. Upshur, resigned, as professor of pharmacology and therapeutics. Dr. Greer Baughman was elected to succeed the late Dr. John F. Winn as professor of obstetrics. Dr. Roshier W. Miller was elected to succeed Dr. Leslie D. Wiggs, resigned, as associate professor of materia medica. No other changes were made.

At Norfolk, during February, there were twelve deaths from pneumonia.

All over the state the colored people are taking up the work of public health and sanitation with enthusiasm.

Deaths.

At Norfolk, March 5th, Dr. H. W. McCrae Washington died, aged 80 years.

At Roxbury, February 26th, Dr. Tazewell Bradley died at his home after a short illness.

At Norfolk, February 24th, Dr. Henry I. Lang died, aged 27 years.

WEST VIRGINIA.

The State Medical Association meets in Huntington, Wednesday, Thursday and Friday, May 12, 13, 14.

At Wheeling, March 23rd, Dr. S. L. Jepson, Secretary of the State Board of Health, delivered an address in connection with the observance of the Health Week celebration. His subject was "Typhoid Fever Control."

Health Commissioner Etzler reports for February a total of 53 deaths in the city, a rate of only 1.23. There were 65 births. The crematory destroyed 412 tons of garbage, 42 tons of produce, 5 tons of night soil and 24 animals.

Deaths.

At Clarksburg, March 2nd, Dr. J. M. Hoey died at his home, aged 69 years.

LEUCOCYTE EXTRACT, SQUIBB

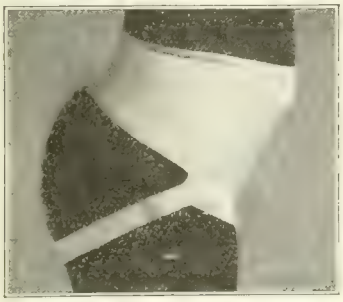
Prepared from healthy leucocytes according to Hiss. Indicated in general acute systemic infections where bacteriological diagnosis is uncertain. Also used in conjunction with the specific serums and vaccines in the treatment of Erysipelas, Meningitis, Lobar Pneumonia, Septicemia, Pyemia and Furunculosis.

No contra-indications are known. For clinical reports address:

E. R. SQUIBB & SONS - - NEW YORK

THE STORM BINDER AND ABDOMINAL SUPPORTER

(PATENTED)



No Leather. No Whalebones. No Rubber Elastic
Washable as Underwear

Adapted to Use of Men, Women, Children and Babies

FOR HERNIA, RELAXED SACROILIAC ARTICULATIONS, FLOATING KIDNEY, LOW AND HIGH OPERATIONS, PTOSIS, PREGNANCY, PERTUSSIS, OBESITY, ETC.

Send for new folder and testimonials of physician. General mail orders filled at Philadelphia only—within twenty-four hours.

Katherine L. Storm, M. D., 1511 Diamond St. PHILADELPHIA

MINERAL WELLS, TEXAS
AN AMERICAN SPA

Located in Palo Pinto Hills of Texas. Population 6,000, elevation 1,200 feet. Good Hotels and Baths. Paved streets, modern sanitation. Ample opportunities for outdoor exercise, mental relaxation, etc. A variety of

Natural Mineral Waters

Ranging from the freely diuretic and mildly laxative to the purgative. The waters from the different Wells contain from 98 to 365 grains of combined Sodium and Magnesium Sulphates to the U. S. gallon, together with the Carbonates and Bicarbonates of Sodium, Calcium, and Magnesium and the Chlorides of Potassium and Sodium in varying amounts.

We invite investigation.

THE COMMERCIAL CLUB
MINERAL WELLS, TEXAS

Portable Fire Proof Garage

Direct from Factory. Guaranteed

FROM $90.00 UP ACCORDING TO SIZE

THE TAYLOR MANUFACTURING CO.
Montclair, N. J.

Patented Oct. 14, 1913. Jan. 6, 1914. Write for catalogue

Bran as Folks Like It

Let Us Send You Some

The chief trouble with Bran Foods lies in uninviting taste. Folks won't continue what they don't enjoy.

They do like Pettijohn's, which is soft wheat flaked like Quaker Oats. It has become in countless homes the favorite morning dish.

Yet we roll into these flakes 25% of tender, unground bran.

It supplies whole-wheat nutrition, a dainty dish and sufficient bran. You are bound to regard it as the ideal way to establish the bran habit.

Pettijohn's

Rolled Wheat with the Bran

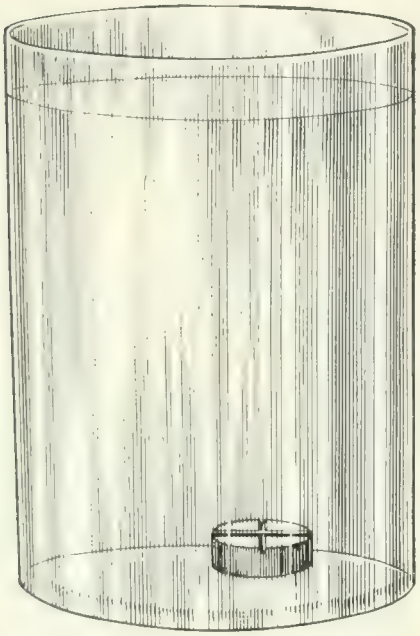
Package Free

We will mail to any physician a full-size package for testing at home or with patients. Please ask us for it.

Most better-class grocers sell Pettijohn's for 15 cents per package. It has national distribution, so any grocer can get it from his jobber. For free package address

The Quaker Oats Company
Chicago, Ill. (891)

PTOMAINE POISON



Where the patient is suffering agony from ptomaine poisoning as a result of tainted food, place

ONE TABLET OF CHINOSOL

in one tumbler warm water.

Let the patient drink entire tumblerful.

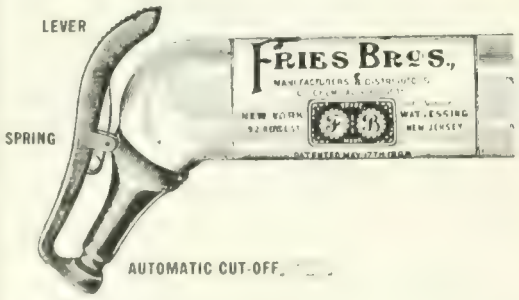
It has many times been shown that this procedure counteracts the influence of the ptomaines and brings relief most promptly. Many patients now dead, might have been saved had physicians all known this valuable truth.

CHINOSOL CO.

FARMELE PHARMACAL CO.
SELLING AGT.,
54 SOUTH ST., N. Y.

SAMPLES AND CLINICAL REPORTS ON REQUEST

LOCAL ANAESTHETIC



KELENE

(Pure Chloride of Ethyl)

Send $1.10 for large 30-gram sample Automatic Tube, or for $1.00 a Double Ended Tube will be sent

Write for literature on FORMALDEHYDE-KELENE for use in hay fever, catarrh, etc.

Automatic Cap

No Effort No Loss of Time

Requires no **Steam Valve** for discharge. Simply press the **Lever** and the **Automatic Sprayer** will do the rest. Glass Tubes **alone** insure **Absolute Purity.**

PURE PORTABLE PRACTICAL

Write to Manufacturers for Full Particulars, Clinical Reports, Etc.

Sole Distributors for the United States

MERCK & CO., NEW YORK—RAHWAY—ST. LOUIS

Sŏlution Pituitary Extract Mulford

A sterile, purified solution of extract of the posterior (infundibular) **lobe of the pituitary gland,** physiologically standardized by the isolated uterus method as improved in the Mulford Laboratories.*

Action and Therapeutic Uses:

1. **Contraction of the Uterus.**—Its action on the uterus makes it valuable in conditions of uterine atony and for controlling post-partum hemorrhage. It should, however, be used carefully on account of possible rupture of the uterus in excessive doses.

2. **Slowing of the heart beat,** caused by either the resistance afforded by the contraction of the arteries or to the action of the drug upon the heart muscles, which tend to decrease the muscular contractions.

Its action on the heart and blood vessels makes it valuable in conditions of general vasomotor insufficiency, and in all conditions of low blood pressure accompanied by rapid heart action. It is said to be useful in controlling pulmonary hemorrhage.

3. **Rise of blood pressure,** due to the contraction of the muscular walls of the blood vessels, particularly the arterioles of the peripheral circulation. Its blood pressure raising action resembles that of suprarenal products, but the effects are much more prolonged. The increase in blood pressure causes an increased activity of the kidneys and also makes it useful in controlling the rapid pulse of pulmonary tuberculosis, typhoid fever, pneumonia, etc.

The average adult dose, 1 c.c., represents 0.2 Gm. of the fresh posterior lobe. It is administered hypodermically, intramuscularly or intravenously. The rapidity of action is, of course, greatest when given intravenously. A dose may be repeated in one hour, if necessary. It should never be administered by mouth, as it is apparently devoid of action when so given.

*A Pharmacodynamic Study of the Pituitary Gland, with Tests of a New Product, by Heidlberg, Pittenger and Vanderkleed.—Jour. A. Ph. A., June, 1914, page 808. The Application of Some Muscular Tissues Adapted to Physiological Standardization, by Stewart and Pittenger.—Monthly Cyclopedia of Medicine, July, 1914, page 305.

Bulgarian Bacillus Mulford

(Pure Living Cultures of the Bulgarian Lactic Acid Bacillus)

For the treatment of intestinal putrefactive fermentation and toxemia and the chronic intestinal disturbances of children. Useful in local infections.

Three points are essential in prescribing:

1. **The culture must contain the true Bulgarian Bacillus.**
2. **The cultures must be free from other living bacteria.**
3. **The cultures must be alive and active.**

To secure these three essentials specify Bulgarian Bacillus Mulford. It is prepared in a complete and modern Mulford biological laboratory, and is the **true living Bulgarian Bacillus.** Its production is safeguarded by the same precautions taken in the preparation of the Mulford Serums and Bacterins, **and the purity of each lot is made certain by careful bacteriological tests before releasing from the laboratory.**

Bulgarian Bacillus Mulford is supplied in packages containing 20 tubes (20 doses), each package stamped with an expiration date to secure active living cultures. It must be kept in a cool place.

H. K. MULFORD COMPANY, Philadelphia, U. S. A.

Manufacturing and Biological Chemists

New York Chicago St Louis Kansas City Atlanta New Orleans Minneapolis San Francisco Seattle
Toronto, Canada London, England Mexico City Australia JAMES BELL & CO., Melbourne

CLASSIFIED ADVERTISEMENTS

Advertisements under this heading will cost 75c for fifty words or less, payable in advance. Additional words, 1½c each. All replies received in our care will be promptly forwarded. **Southern Medical Journal Mobile, Ala.**

SYSTEM FOR THE DOCTOR means money and time saved, more efficiency in the treatment of the patient and less drudgery for the physician. THE HOLDEN SYSTEM is simplicity itself and a recognized economical, complete, uniform and reliable short cut method for ACCOUNTS and CASE-RECORDS. Eleven years of success proves our claims. Special reduced introductory offers made to readers of this magazine. Samples and full information sent on request. Address THE HOLDEN SYSTEM, Box 351-D, Yonkers, N. Y.

WASSERMANN LABORATORY—2159 Madison St., Chicago. Alcoholic Luetic Liver Extract and Amboceptors furnished. Wassermann Test, Autogenous Vaccines, Pathological Specimens examined. Intravenous Gravity Outfit. GUINEA PIGS FOR SALE. Free instructions how to do the Wassermann Test.

WANTED—Opportunity to become associated with older physician; am 31, single, strictly temperate, graduate A plus school (1912). Have had excellent hospital experience, medical, surgical and gynecological, in Philadelphia and Baltimore hospitals. Very best references given and required. Address 575-AWD, care Southern Medical Journal.

Are You a Progressive Doctor?

Of course you are—therefore it is your duty to attend the coming meeting of your state medical association. You owe it to yourself and to the profession to be at that meeting if possible.

Your first duty is to your local society, your second duty is to your state association, and your third duty to your "regional" association, The Southern Medical Association.

Note the date of your next meeting and BE SURE TO GO.

ARKANSAS—Little Rock, May 3, 4, 5, 6.
FLORIDA—Deland, May 12 13, 14.
*MISSISSIPPI—Hattiesburg, May 11, 12, 13.
NORTH CAROLINA—Greensboro, June 15, 16, 17.
OKLAHOMA—Bartlesville, May 11, 12, 13.
TEXAS—Fort Worth, May 4, 5, 6.
WEST VIRGINIA—Huntington, May 12, 13, 14.

Keep in mind that your "regional" association, The Southern Medical Association, meets in Dallas Texas, November 8-11, 1915. Come and help us make that the greatest medical meeting ever held in the South.

*In our ad "You Progressive Doctor" page xxvi, of our April issue we gave the wrong date of the Mississippi meeting—the date here given is correct.

We exercise the most scrupulous care in the manufacture of our

Pharmaceuticals

A bottle sealed from our laboratory is an assurance of quality within that would be hard to express in words; a trial only could adequately express.

Van Antwerp's
THE BEST ONLY

PHARMACEUTICAL LABORATORY

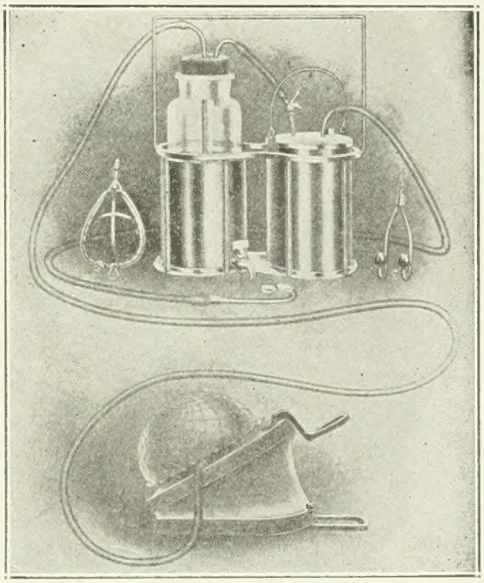
VAN ANTWERP BLDG. MOBILE, ALA,

Patronize our advertisers—mention the Journal when you write them.

CAINE WARM ETHER APPARATUS

The only apparatus of its kind that will administer Warm Ether Vapor without the use of a flame. Designed especially for Throat Surgery, but practical in general work with the addition of a Gwathmey Mask. Simple and inexpensive in operation and always ready for immediate use. Nothing to get out of order. All working parts easily replaced.

Send for Literature and Prices



THE McDERMOTT SURGICAL INSTRUMENT CO., LTD.

SOLE LICENSED MANUFACTURERS

734, 736 and 738 Poydras Street, NEW ORLEANS, LA.

Mellin's Food

was the first preparation of maltose and dextrin presented to physicians in serviceable form, and it stands today as a true representation of Liebig's principles which are now so generally applied to scientific infant feeding.

There is a distinct advantage to the physician in the employment of Mellin's Food where

A Maltose and Dextrin Product

is desired, and we cannot emphasize too strongly the importance of using a product scientifically prepared from carefully selected material and by clean methods if successful results are to be obtained.

Samples and literature upon request.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

HOSPITAL-ity

The convalescent eagerly awaits complete recovery —and home. An occasional glass of Welch's—nature's pure fruit juice—will add a little home touch to the up-building process.

Welch's

Grape Juice

Help the patient to take away a pleasant memory of your hospital-ity, by means of Welch's Grape Juice.

It has an inimitable tart-sweet flavor—the answer to that inexpressible craving for "something." And it is absolutely pure.

Literature on request.

The Welch Grape Juice Company, Westfield, N. Y.

Glycerophosphate in Solution Change Chemically

For protection against such instability we offer

Tablets Glycerophosphates Compound P-M Co.

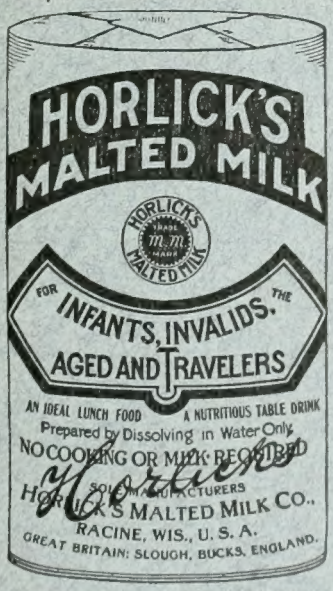
Each tablet contains:

Sodium Glycerophosphate 1 gr.
Calcium Glycerophosphate 2 gr.
Iron Glycerophosphate 1-8 gr.
Strychnine Alkaloid 1-120 gr.

A TRUE LINE

PITMAN-MOORE COMPANY
INDIANAPOLIS

ASK FOR HORLICK'S



AVOID IMITATIONS

HORLICK'S *The Original* MALTED MILK

The Delightful Food - Drink for All Ages

The convenience and ease of preparation of Horlick's Malted Milk its well-balanced composition, freedom from bacterial taint and perfect digestibility, commend it highly as a safe and most efficient way in which milk can be given to infants, invalids, or convalescents.

The profession recognizes its many advantages and prescribes it largely in all conditions where a safe, palatable, and easily digested food is indicated.

The name "HORLICK'S" insures
Originality - Quality - Service

Horlick's Malted Milk Co.
Racine, Wisconsin

Agar (Granular), P. D. & Co.

FOR TREATMENT OF CHRONIC CONSTIPATION.

AGAR is a product of Japan, derived from seaweed and sometimes known as Japanese gelatin. It is supplied commercially in dry, transparent pieces that are reduced to coarse flakes for medicinal use. It freely absorbs water and retains it. It resists the action of the intestinal bacteria and of the digestive enzymes. Its chief use in medicine is in the treatment of chronic constipation.

Agar may be eaten with milk or cream, or with a cereal breakfast food, salted or sweetened to suit the taste.

Agar is not digested. It passes practically unaltered into the intestine, where it moistens the feces. It serves as a mechanical stimulant to the bowels, aiding in the production of a normal, healthy evacuation—a condition approximating the natural function.

Pound and ¼-pound packages.

WRITE FOR A DESCRIPTIVE CIRCULAR.

Detroit, Michigan.

Parke, Davis & Co.